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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of: KARL
JOHNSON , ET AL.
Application No.: 10/697,554

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Title: METAL DEMOLITION SHEARS WITH INDEXABLE, INTEGRATED WEAR
PLATE/PIERCING TIP

**MS Appeal Brief Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**

ATTENTION: Board of Patent Appeals and Interferences

SUPPLEMENTAL APPEAL BRIEF (37 C.F.R. § 41.37)

Appellants hereby submit this Supplemental Appeal Brief appealing the rejection of claims 1-22, 40-49, 51, 53, and 55-57 of the present application. This brief supplements the original September 30, 2008 Appeal Brief by responding to the new rejections in the Examiner's intervening December 22, 2008 Office Action. Applicants file herewith a response to that office action requesting the reinstatement of this appeal. A Notice of Appeal was previously filed on September 30, 2008.

TABLE OF CONTENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE.....	1
I. REAL PARTY IN INTEREST (37 C.F.R. § 41.37(c)(1)(i))	3
II. RELATED APPEALS AND INTERFERENCES (37 C.F.R. § 41.37(c)(1)(ii))	3
III. STATUS OF CLAIMS (37 C.F.R. § 41.37(c)(1)(iii))	3
A. Status of All Claims in the Application.....	3
B. Claims on Appeal	3
IV. STATUS OF AMENDMENTS (37 C.F.R. § 41.37(c)(1)(iv))	3
V. SUMMARY OF THE CLAIMED SUBJECT MATTER (37 C.F.R. § 41.37(c)(1)(v))	3
VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL (37 C.F.R. § 41.37(c)(1)(vi)).....	21
VII. ARGUMENT (37 C.F.R. § 41.37(c)(1)(vii)): REJECTION OF CLAIMS 1-22, 40-49, 51, 53, AND 55-57 UNDER 35 U.S.C. § 103(a) AS UNPATENTABLE OVER THE '023 PATENT IN VIEW OF HRUSCH, AIKEN, JACOBSON, AND HALL.....	21
A. Independent Claims 1, 3, and 42 and Dependent Claims 2, 43-49, and 51	22
1. There Was No Disclosure, Suggestion, or Other Reason To Make The Proposed Modification.....	23
2. Hrusch and Aiken Do Not Cure The Deficiencies Of The '023 Patent.....	28
3. The Proposed Modification Relies On Impermissible Hindsight.....	28
4. The '023 Patent Teaches Away From The Proposed Modification.....	29
5. The Objective Evidence of Non-Obviousness Is Compelling	32
a. The Commercial Success Of The Invention Proves Its Nonobviousness	33
b. Competitors' Copying of the Invention and Subsequent Respect for the Value of the Claimed Invention Proves Its Nonobviousness	35
c. The European Patent Office Found the Present Invention Patentable	38
d. Conclusion	39
6. Conclusion.....	39
B. Independent Claim 4 and Dependent Claims 40 and 41	39
C. Independent Claims 5, 7, 10, 12, 14, 16, 18, and 20 and Dependent Claims 6, 8, 9, 11, 13, 15, 17, 21, 22, 53, and 55-57.....	40
D. Independent Claim 19	40
E. Dependent Claim 46	41
VIII. CONCLUSION.....	41
IX. CLAIMS APPENDIX (37 C.F.R. § 41.37(c)(1)(viii)).....	43
X. EVIDENCE APPENDIX (37 C.F.R. § 41.37(c)(1)(ix))	59
A. Sederberg Rule 132 Declaration and included exhibits	60
B. Present Application (U.S. Pat. App. Pub. No. 2005/0091852 A1)	61
XI. RELATED PROCEEDINGS APPENDIX (37 C.F.R. § 41.37(c)(1)(x)).....	62

I. REAL PARTY IN INTEREST (37 C.F.R. § 41.37(c)(1)(i))

The real party in interest in this appeal is The Stanley Works, which is the assignee of record for this application (assignment recorded on March 3, 2004 at reel 015043, frame 0866).

II. RELATED APPEALS AND INTERFERENCES (37 C.F.R. § 41.37(c)(1)(ii))

There are no other related appeals, interferences, or judicial proceedings known to Appellants, Appellants' legal representatives, or Assignee which may be related to, directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS (37 C.F.R. § 41.37(c)(1)(iii))

A. Status of All Claims in the Application

1. Claims pending: 1-22, 40-49, 51, 53, and 55-57.
2. Claims rejected: 1-22, 40-49, 51, 53, and 55-57 (via the December 22, 2009 Office Action).
3. Claims allowed: none.
4. Claims canceled: 23-39, 50, 52, and 54.
5. Claims withdrawn from consideration: none.
6. Claims objected to: none.

B. Claims on Appeal

Appellants appeal all pending claims (claims 1-22, 40-49, 51, 53, and 55-57).

IV. STATUS OF AMENDMENTS (37 C.F.R. § 41.37(c)(1)(iv))

Appellants have not filed an After Final Amendment.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER (37 C.F.R. § 41.37(c)(1)(v))

Appellants provide the following concise, non-limiting explanation of example subject matter of the separately appealed claims, with parenthetical citations to the original as-published version of the application, U.S. Patent Application Publication No. 2005/0091852 A1 (App. X.B.):

1. An indexable wear plate/piercing tip insert {refs. 150, 150', 150'', 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} configured to be attached at a front, nose portion {refs. 136, 136'', 236; FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1}

of a correspondingly configured movable jaw {refs. 104, 104", 204; FIGS. 3-6, 10-13; p. 2, ¶ [0028], lines 6-7; p. 4, ¶ [0042], lines 3-4; pp. 4-5, ¶ [0049], line 5} of a metal demolition shears {refs. 100, 200; FIGS. 3, 4, 13; p. 2, ¶ [0028], line 1; p. 4, ¶ [0047], line 1}, the wear plate/piercing tip insert comprising:

a metal body {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7; p. 3, ¶ [0031], lines 7-8} and two ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8}, and

a metal tip portion {refs. 158, 158", 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-14; p. 5, ¶ [0048], line 12} disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038], lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031], lines 8-11} of said body so as to define a piercing tip that extends at least partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw;

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said body that is opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-16} to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines 11-13} on said second side of said body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶ [0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033], lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface {p. 3, ¶ [0033], lines 1-23};

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said wear plate/piercing tip insert on the movable jaw, and

wherein rotation of the wear plate/piercing tip insert between the first and second positions swaps the shearing edges of the two metal tip portions between operative and non-operative positions {p. 4, ¶ [0039], lines 1-13}.

3. An indexable wear plate/piercing tip insert {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} configured to be attached at a front, nose portion {refs. 136, 136", 236; FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1} of a correspondingly configured movable jaw {refs. 104, 104", 204; FIGS. 3-6, 10-13; p. 2, ¶ [0028], lines 6-7; p. 4, ¶ [0042], lines 3-4; pp. 4-5, ¶ [0049], line 5} of a metal demolition shears {refs. 100, 200; FIGS. 3, 4, 13; p. 2, ¶ [0028], line 1; p. 4, ¶ [0047], line 1}, the wear plate/piercing tip insert comprising:

a metal body {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7; p. 3, ¶ [0031], lines 7-8} and two ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8}, and

a metal tip portion {refs. 158, 158", 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-14; p. 5, ¶ [0048], line 12} disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038], lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031], lines 8-11} of said body so as to define a piercing tip that extends at least partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw;

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said body that is opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-16} to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines 11-13} on said second side of said body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶ [0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which

said wear plate/piercing tip insert is rotated about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033]; lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface {p. 3, ¶ [0033], lines 1-23};

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said wear plate/piercing tip insert on the movable jaw, and

wherein the shearing edge of each tip portion is coplanar with and forms an edge {FIGS. 6, 9, 11, 13} of said generally planar surface.

4. An indexable wear plate/piercing tip insert {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} configured to be attached at a front, nose portion {refs. 136, 136", 236; FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1} of a correspondingly configured movable jaw {refs. 104, 104", 204; FIGS. 3-6, 10-13; p. 2, ¶ [0028], lines 6-7; p. 4, ¶ [0042], lines 3-4; pp. 4-5, ¶ [0049], line 5} of a metal demolition shears {refs. 100, 200; FIGS. 3, 4, 13; p. 2, ¶ [0028], line 1; p. 4, ¶ [0047], line 1}, the wear plate/piercing tip insert comprising:

a metal body {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7; p. 3, ¶ [0031], lines 7-8} and two ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8};

a metal tip portion {refs. 158, 158", 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-14; p. 5, ¶ [0048], line 12} disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038], lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031], lines 8-11} of said body so as to define a piercing tip that extends at least partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw; and

at least one boss or dowel {refs. 166, 166', 266; FIGS. 7, 8a, 10, 13; p. 3, ¶ [0032], lines 1-16; p. 5, ¶ [0048], line 10} that is located between said metal tip portions and that extends laterally from said central region in the direction of the first side of said body,

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said body that is

opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-16} to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines 11-13} on said second side of said body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶ [0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033], lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface {p. 3, ¶ [0033], lines 1-23};

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said wear plate/piercing tip insert on the movable jaw.

5. A metal demolition shears, comprising:

a fixed jaw {ref. 102; FIGS. 3-4; p. 2, ¶ [0028], line 6} having a fixed blade member {refs. 116, 126; FIGS. 3-4; p. 3, ¶ [0029], lines 1-2; p. 3, ¶ [0030], lines 13} with a first cutting/shearing edge {ref. 130; FIGS. 3-4; p. 3, ¶ [0029], lines 5-7} extending therealong and a guide member {ref. 120; FIGS. 3-4; p. 3, ¶ [0029], line 2} spaced from and extending in generally parallel relation to said fixed blade member;

a movable jaw {refs. 104, 104", 204; FIGS. 3-6, 10-13; p. 2, ¶ [0028], lines 6-7; p. 4, ¶ [0042], lines 3-4; pp. 4-5, ¶ [0049], line 5} with a second cutting/shearing edge {ref. 132; FIGS. FIG. 4; p. 3, ¶ [0030], lines 5-7} extending therealong and that pivots relative to said fixed jaw; and

an indexable wear plate/piercing tip insert {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} that is attached at a front, nose portion {refs. 136, 136", 236; FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1} of said movable jaw, the wear plate/piercing tip insert comprising a metal body {refs. 150, 150', 150"},

250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7; p. 3, ¶ [0031], lines 7-8} and two ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8} and a metal tip portion {refs. 158, 158", 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-14; p. 5, ¶ [0048], line 12} disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038], lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031], lines 8-11} of said body so as to define an integral piercing tip that extends at least partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the movable jaw;

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said body that is opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-16} to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines 11-13} on said second side of said body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶ [0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable blade member; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033], lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface {p. 3, ¶ [0033], lines 1-23},

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for said metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert on said movable blade member, and

wherein rotation of the wear plate/piercing tip insert between the first and second positions swaps the shearing edges of the two metal tip portions between operative and non-operative positions {FIGS. 3-13}.

7. A metal demolition shears, comprising:

a fixed jaw {ref. 102; FIGS. 3-4; p. 2, ¶ [0028], line 6} having a fixed blade member

{refs. 116, 126; FIGS. 3-4; p. 3, ¶ [0029], lines 1-2; p. 3, ¶ [0030], lines 13} with a first cutting/shearing edge {ref. 130; FIGS. 3-4; p. 3, ¶ [0029], lines 5-7} extending therealong and a guide member {ref. 120; FIGS. 3-4; p. 3, ¶ [0029], line 2} spaced from and extending in generally parallel relation to said fixed blade member;

a movable jaw {refs. 104, 104", 204; FIGS. 3-6, 10-13; p. 2, ¶ [0028], lines 6-7; p. 4, ¶ [0042], lines 3-4; pp. 4-5, ¶ [0049], line 5} with a second cutting/shearing edge {ref. 132; FIGS. FIG. 4; p. 3, ¶ [0030], lines 5-7} extending therealong and that pivots relative to said fixed jaw; and

an indexable wear plate/piercing tip insert {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} that is attached at a front, nose portion {refs. 136, 136", 236; FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1} of said movable jaw, the wear plate/piercing tip insert comprising a metal body {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7; p. 3, ¶ [0031], lines 7-8} and two ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8} and a metal tip portion {refs. 158, 158", 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-14; p. 5, ¶ [0048], line 12} disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038], lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031], lines 8-11} of said body so as to define an integral piercing tip that extends at least partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the movable jaw,

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said body that is opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-16} to define a wear surface of said wear plate/piercing tip insert,

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines 11-13} on said second side of said body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶ [0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable blade member,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033],

lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface {p. 3, ¶ [0033], lines 1-23},

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for said metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert on said movable blade member, and

wherein the front, nose portion of the movable jaw member has a pocket or cavity {ref. 174, 274; FIGS. 5, 13; p. 3, ¶ [0036], lines 1-2; p. 5, ¶ [0048], line 3} extending laterally inwardly from a surface {ref. 170; FIG. 5; p. 3, ¶ [0036], lines 2-3} thereof into which the tip portions of the wear plate/piercing tip insert each fit, one of the tip portions being fitted in said pocket or cavity when positioned in a non-operative position.

10. A metal demolition shears, comprising:

a fixed jaw {ref. 102; FIGS. 3-4; p. 2, ¶ [0028], line 6} having a fixed blade member {refs. 116, 126; FIGS. 3-4; p. 3, ¶ [0029], lines 1-2; p. 3, ¶ [0030], lines 13} with a first cutting/shearing edge {ref. 130; FIGS. 3-4; p. 3, ¶ [0029], lines 5-7} extending therealong and a guide member {ref. 120; FIGS. 3-4; p. 3, ¶ [0029], line 2} spaced from and extending in generally parallel relation to said fixed blade member;

a movable jaw {refs. 104, 104", 204; FIGS. 3-6, 10-13; p. 2, ¶ [0028], lines 6-7; p. 4, ¶ [0042], lines 3-4; pp. 4-5, ¶ [0049], line 5} with a second cutting/shearing edge {ref. 132; FIGS. FIG. 4; p. 3, ¶ [0030], lines 5-7} extending therealong and that pivots relative to said fixed jaw; and

an indexable wear plate/piercing tip insert {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} that is attached at a front, nose portion {refs. 136, 136", 236; FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1} of said movable jaw, the wear plate/piercing tip insert comprising a metal body {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7; p. 3, ¶ [0031], lines 7-8} and two ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8} and a metal tip portion {refs. 158, 158", 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-14; p. 5, ¶ [0048], line 12} disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038]},

lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031], lines 8-11} of said body so as to define an integral piercing tip that extends at least partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the movable jaw,

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said body that is opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-16} to define a wear surface of said wear plate/piercing tip insert,

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines 11-13} on said second side of said body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶ [0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable blade member,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033], lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface {p. 3, ¶ [0033], lines 1-23};

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for said metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert on said movable blade member, and

wherein said wear plate/piercing tip insert further comprises at least one boss or dowel {refs. 166, 166', 266; FIGS. 7, 8a, 8b, 10, 13; p. 3, ¶ [0032], lines 2-14; p. 5, ¶ [0048], line 10} that is located between said metal tip portions and that extends laterally from said central region in the direction of the first side of said body and wherein the front, nose portion of the movable jaw has a depression {refs. 182, 282; FIGS. 5, 13; p. 3, ¶ [0032], line 6; p. 5, ¶ [0048], line 11} extending laterally inwardly from a surface {ref. 170; FIG. 5; p. 3, ¶ [0035], line 2} thereof that matches surface contours of said at least one boss or dowel, said at least one boss or dowel fitting within said depression.

12. A metal demolition shears, comprising:

a fixed jaw {ref. 102; FIGS. 3-4; p. 2, ¶ [0028], line 6} having a fixed blade member

{refs. 116, 126; FIGS. 3-4; p. 3, ¶ [0029], lines 1-2; p. 3, ¶ [0030], lines 13} with a first cutting/shearing edge {ref. 130; FIGS. 3-4; p. 3, ¶ [0029], lines 5-7} extending therealong and a guide member {ref. 120; FIGS. 3-4; p. 3, ¶ [0029], line 2} spaced from and extending in generally parallel relation to said fixed blade member;

a movable jaw {refs. 104, 104", 204; FIGS. 3-6, 10-13; p. 2, ¶ [0028], lines 6-7; p. 4, ¶ [0042], lines 3-4; pp. 4-5, ¶ [0049], line 5} with a second cutting/shearing edge {ref. 132; FIG. 4; p. 3, ¶ [0030], lines 5-7} extending therealong and that pivots relative to said fixed jaw; and

an indexable wear plate/piercing tip insert {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} that is attached at a front, nose portion {refs. 136, 136", 236; FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1} of said movable jaw, the wear plate/piercing tip insert comprising a metal body {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7; p. 3, ¶ [0031], lines 7-8} and two ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8} and a metal tip portion {refs. 158, 158", 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-14; p. 5, ¶ [0048], line 12} disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038], lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031], lines 8-11} of said body so as to define an integral piercing tip that extends at least partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the movable jaw,

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said body that is opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-16} to define a wear surface of said wear plate/piercing tip insert,

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines 11-13} on said second side of said body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶ [0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable blade member,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033], lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally

planar surface {p. 3, ¶ [0033], lines 1-23},

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for said metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert on said movable blade member,

wherein the second cutting/shearing edge is provided by at least one blade insert member {ref. 128; FIG. 4; p. 3, ¶ [0030], lines 3-5}, and

wherein the blade insert member extends all the way to a forwardmost portion {FIGS. 4, 6} of the front, nose portion of the movable jaw and wherein an inner-facing surface of one of the tip portions that is in an operative position engages with an inner-facing surface of the blade insert.

14. A jaw member for use in a metal demolition shears, said jaw member comprising:
a jaw body {ref. 102; FIGS. 3-4; p. 2, ¶ [0028], line 6} with a cutting/shearing edge extending therealong {ref. 130; FIGS. 3-4; p. 3, ¶ [0029], lines 5-7}; and

an indexable wear plate/piercing tip insert {refs. 150, 150', 150'', 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} that is attached at a front, nose portion {refs. 136, 136'', 236; FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1} of said jaw body, the wear plate/piercing tip insert comprising a metal insert body {refs. 150, 150', 150'', 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7; p. 3, ¶ [0031], lines 7-8} and two ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8} and a metal tip portion {refs. 158, 158'', 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-14; p. 5, ¶ [0048], line 12} disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038], lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031], lines 8-11} of said insert body so as to define an integral piercing tip that extends at least partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the jaw body;

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said insert body that is opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-16} to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines

11-13} on said second side of said insert body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶ [0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the jaw body; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033], lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface {p. 3, ¶ [0033], lines 1-23},

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert body on said movable blade member, and

wherein rotation of the wear plate/piercing tip insert between the first and second positions swaps the shearing edges of the two metal tip portions between operative and non-operative positions.

16. A jaw member for use in a metal demolition shears, said jaw member comprising:
 - a jaw body {ref. 102; FIGS. 3-4; p. 2, ¶ [0028], line 6} with a cutting/shearing edge extending therealong {ref. 130; FIGS. 3-4; p. 3, ¶ [0029], lines 5-7}; and
 - an indexable wear plate/piercing tip insert {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} that is attached at a front, nose portion {refs. 136, 136", 236; FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1} of said jaw body, the wear plate/piercing tip insert comprising a metal insert body {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7; p. 3, ¶ [0031], lines 7-8} and two ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8} and a metal tip portion {refs. 158, 158", 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-14; p. 5, ¶ [0048], line 12} disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038], lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031], lines 8-11} of said insert body so as to define an integral piercing tip that extends at least

partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the jaw body,

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said insert body that is opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-16} to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines 11-13} on said second side of said insert body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶ [0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the jaw body,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033], lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface {p. 3, ¶ [0033], lines 1-23},

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert body on said movable blade member, and

wherein the front, nose portion of the movable jaw member has a pocket or cavity {ref. 174, 274; FIGS. 5, 13; p. 3, ¶ [0036], lines 1-2; p. 5, ¶ [0048], line 3} extending laterally inwardly from a surface {ref. 170; FIG. 5; p. 3, ¶ [0036], lines 2-3} thereof into which the tip portions of the wear plate/piercing tip insert each fit, one of the tip portions being fitted in said pocket or cavity when positioned in a non-operative position.

18. A jaw member for use in a metal demolition shears, said jaw member comprising:
 - a jaw body {ref. 102; FIGS. 3-4; p. 2, ¶ [0028], line 6} with a cutting/shearing edge extending therealong {ref. 130; FIGS. 3-4; p. 3, ¶ [0029], lines 5-7}; and
 - an indexable wear plate/piercing tip insert {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} that is attached at a front, nose portion {refs. 136, 136", 236; FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1} of said jaw body, the wear plate/piercing tip insert comprising a metal insert body {refs. 150, 150', 150"},

250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7; p. 3, ¶ [0031], lines 7-8} and two ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8} and a metal tip portion {refs. 158, 158'', 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-14; p. 5, ¶ [0048], line 12} disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038], lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031], lines 8-11} of said insert body so as to define an integral piercing tip that extends at least partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the jaw body,

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said insert body that is opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-16} to define a wear surface of said wear plate/piercing tip insert,

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines 11-13} on said second side of said insert body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶ [0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the jaw body,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033], lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface {p. 3, ¶ [0033], lines 1-23},

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert body on said movable blade member, and

wherein the front, nose portion of the jaw member has a notch {refs. 178, 278; FIGS. 5, 13; p. 3, ¶ [0037], lines 1-3; p. 5, ¶ [0048], lines 5-6} formed in an underside {ref. 180; FIGS. 5, 13; p. 3, ¶ [0037], lines 1-3} thereof, the notch having surface contours that match surface contours of the tip portions, wherein one of the tip portions that is positioned in an operative position engages with said notch.

19. A jaw member for use in a metal demolition shears, said jaw member comprising:
a jaw body {ref. 102; FIGS. 3-4; p. 2, ¶ [0028], line 6} with a cutting/shearing edge
extending therealong {ref. 130; FIGS. 3-4; p. 3, ¶ [0029], lines 5-7}; and
an indexable wear plate/piercing tip insert {refs. 150, 150', 150'', 250a, 250b; FIGS. 3, 5-
13; p. 3, ¶ [0031], lines 1-16} that is attached at a front, nose portion {refs. 136, 136'', 236;
FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1} of said jaw
body, the wear plate/piercing tip insert comprising a metal insert body {refs. 150, 150', 150'',
250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7;
p. 3, ¶ [0031], lines 7-8} and two ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8} and a metal
tip portion {refs. 158, 158'', 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-
14; p. 5, ¶ [0048], line 12} disposed at each of said two ends, each said tip portion protruding
laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038],
lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031],
lines 8-11} of said insert body so as to define an integral piercing tip that extends at least
partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the jaw body,

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said insert body that is
opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-
16} to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines
11-13} on said second side of said insert body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶
[0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said
piercing edge extending at least partially across the width of the front, nose portion of the jaw
body,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially
the same in a first position and a second position, said second position being a position in which
said wear plate/piercing tip insert is rotated about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033],
lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally
planar surface {p. 3, ¶ [0033], lines 1-23},

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn
shearing and piercing edges can be presented for the metal demolition shear by rotating said

wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert body on said movable blade member, and

wherein said wear plate/piercing tip insert further comprises a boss {refs. 166, 166', 266; FIGS. 7, 8a, 10, 13; p. 3, ¶ [0032], lines 1-16; p. 5, ¶ [0048], line 10} that is located between said metal tip portions and that extends laterally from said central region in the direction of the first side of said body and wherein the front, nose portion of said jaw member has a depression {refs. 182, 282; FIGS. 5, 13; p. 3, ¶ [0032], line 6; p. 5, ¶ [0048], line 11} extending laterally inwardly from a surface {ref. 170; FIG. 5; p. 3, ¶ [0035], line 2} thereof that matches surface contours of said boss, said boss fitting within said depression.

20. A jaw member for use in a metal demolition shears, said jaw member comprising:
a jaw body {ref. 102; FIGS. 3-4; p. 2, ¶ [0028], line 6} with a cutting/shearing edge extending therealong {ref. 130; FIGS. 3-4; p. 3, ¶ [0029], lines 5-7}; and

an indexable wear plate/piercing tip insert {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} that is attached at a front, nose portion {refs. 136, 136', 236; FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1} of said jaw body, the wear plate/piercing tip insert comprising a metal insert body {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7; p. 3, ¶ [0031], lines 7-8} and two ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8} and a metal tip portion {refs. 158, 158", 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-14; p. 5, ¶ [0048], line 12} disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038], lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031], lines 8-11} of said insert body so as to define an integral piercing tip that extends at least partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the jaw body,

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said insert body that is opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-16} to define a wear surface of said wear plate/piercing tip insert,

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines 11-13} on said second side of said insert body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶ [0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said

piercing edge extending at least partially across the width of the front, nose portion of the jaw body,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033], lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface {p. 3, ¶ [0033], lines 1-23},

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert body on said movable blade member, and

wherein the cutting/shearing edge is provided by at least one blade insert member {ref. 126; FIG. 3; p. 3, ¶ [0030], lines 1-9}.

42. An indexable wear plate/piercing tip insert {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} configured to be attached at a front, nose portion {refs. 136, 136", 236; FIGS. 5, 10; p. 3, ¶ [0031], lines 4-5; p. 4, ¶ [0042], lines 3-4; p. 5, ¶ [0048], line 1} of a correspondingly configured jaw {refs. 104, 104", 204; FIGS. 3-6, 10-13; p. 2, ¶ [0028], lines 6-7; p. 4, ¶ [0042], lines 3-4; pp. 4-5, ¶ [0049], line 5} of a metal demolition shears {refs. 100, 200; FIGS. 3, 4, 13; p. 2, ¶ [0028], line 1; p. 4, ¶ [0047], line 1}, the wear plate/piercing tip insert comprising:

a metal body {refs. 150, 150', 150", 250a, 250b; FIGS. 3, 5-13; p. 3, ¶ [0031], lines 1-16} having a central region {ref. 154; FIG. 7; p. 3, ¶ [0031], lines 7-8} and two longitudinal ends {ref. 156; FIGS. 5, 7; p. 3, ¶ [0031], line 8};

a metal tip portion {refs. 158, 158", 258; FIGS. 7, 9-13; p. 3, ¶ [0031], lines 8-11; p. 4, ¶ [0042], lines 4-14; p. 5, ¶ [0048], line 12} disposed at each of said two longitudinal ends, each said tip portion protruding laterally with respect to a surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038], lines 12-13} of said central region in the direction of a first side {ref. 160; FIG. 7; p. 3, ¶ [0031], lines 8-11} of said body so as to define a piercing tip that extends at least partially across the width {FIGS. 3-4, 6, 11, 12, 13} of the front, nose portion of the jaw when the wear plate/piercing tip insert is attached to the jaw; and

at least one circular boss {refs. 166, 166', 266; FIGS. 7, 8a, 10, 13; p. 3, ¶ [0032], lines 1-16; p. 5, ¶ [0048], line 10} that is located between said metal tip portions and that extends laterally from said central region in the direction of the first side of said metal body,

wherein a second side {ref. 162; FIG. 6; p. 3, ¶ [0031], line 12} of said body that is opposite to said first side has a generally planar surface {ref. 164; FIG. 6; p. 3, ¶ [0031], lines 12-16} to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge {ref. 190; FIG. 6; p. 4, ¶ [0039], lines 11-13} on said second side of said body and a piercing edge {ref. 188; FIG. 6; p. 4, ¶ [0039], lines 9-11} disposed at an angle relative to and intersecting with said shearing edge, said shearing edge of each tip portion being coplanar with said generally planar surface and forming an edge of said generally planar surface, said piercing edge extending at least partially across the width of the front, nose portion of the jaw when the wear plate/piercing tip insert is attached to the jaw; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated by 180° about a pivot axis {ref. 168; FIG. 7; p. 3, ¶ [0033], lines 1-23} passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface {p. 3, ¶ [0033], lines 1-23}.

46. The wear plate/piercing tip insert of claim 45, wherein:

the central region of the metal body further includes a generally planar surface {ref. 155; FIG. 7; p. 3, ¶ [0031], lines 8-11; pp. 3-4, ¶ [0038], lines 12-13} from which the first boss extends;

the generally planar surface of the central region is generally parallel to the generally planar surface of the second side of the body;

the central region includes first and second generally planar edge surfaces {FIGS. 3-7} that extend from the generally planar surface of the central region to the generally planar surface of the second side of the body;

a first notch {FIGS. 3, 5-7} extends into the central region from the first generally planar edge surface; and

a second notch {FIGS. 3, 5-7} extends into the central region from the second generally planar edge surface.

VI. GROUNDΣ OF REJECTION TO BE REVIEWED ON APPEAL (37 C.F.R. § 41.37(c)(1)(vi))

Appellants appeal the rejection of claims 1-22, 40-49, 51, 53, and 55-57 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,992,023 (“the ‘023 patent”) in view of U.S. Patent No. 5,894,666 (“Hrusch”), U.S. Patent No. 402,381 (“Aiken”), U.S. Patent No. 6,839,969 (“Jacobson”), and U.S. Patent No. 5,187,868 (“Hall”). 12/22/08 Office Action, pp. 2-3.

VII. ARGUMENT (37 C.F.R. § 41.37(c)(1)(vii)): REJECTION OF CLAIMS 1-22, 40-49, 51, 53, AND 55-57 UNDER 35 U.S.C. § 103(a) AS UNPATENTABLE OVER THE ‘023 PATENT IN VIEW OF HRUSCH, AIKEN, JACOBSON, AND HALL

Claims 1-22, 40-49, 51, 53, and 55-57 were rejected under 35 U.S.C. § 103(a) as obvious over the ‘023 patent in view of Hrusch, Aiken, Jacobson, and Hall. 12/22/08 Office Action, pp. 2-3. Appellants respectfully and separately traverse this rejection as applied to: (A) independent claims 1, 3, and 42 and dependent claims 2, 43-49, and 51; (B) independent claim 4 and dependent claims 40 and 41; (C) independent claims 5, 7, 10, 12, 14, 16, 18, and 20 and dependent claims 6, 8, 9, 11, 13, 15, 17, 21, 22, 53, and 55-57; (D) independent claim 19; and (E) dependent claim 46.

Appellants initially note their extreme disappointment with the USPTO handling of this commercially crucial application over the past 5 ½ years. The USPTO issued six straight non-final office actions (dated 10/3/05, 6/1/06, 8/25/06, 4/2/07, 8/27/07, and 2/11/08) before finally rejecting the present claims in its August 7, 2008 seventh office action. Appellants appealed that rejection and filed their original Appeal Brief on September 30, 2008, only to have the USPTO reopen prosecution and issue an eighth non-final office action based on new prior art that, as discussed below, is no more relevant than the previously asserted art. This latest office action is just one more example of how the USPTO’s handling of this application has been a travesty of justice.

Moreover, early on, in an effort to expedite the prosecution of this application, Appellants conducted three interviews with the Examiner (dated 3/1/06, 5/10/07, and 3/4/08). An agreement was reached during the March 1, 2006 interview that “[i]f claim 1 is amended to recite ‘each said tip portion protruding laterally with respect to a surface of said central region,’ it appears to

overcome the combination of [the ‘023 patent] and Morikawa.” 3/1/06 Interview Summary. However, when Appellants made the agreed amendment to claim 1, the Examiner withdrew his agreement and rejected claim 1 over the ‘023 patent.

Additionally, in its April 2, 2007 fourth non-final office action, the USPTO allowed 17 dependent claims. Already frustrated with the USPTO’s handing of this application, Appellants decided to accept the allowed claims and amended the claims solely to convert the allowed dependent claims into independent form. Incredibly, the USPTO then issued a multiplicity rejection based on Appellants’ inclusion of too many independent claims! *See* 8/27/07 Office Action. Put simply, the USPTO rejected the application for doing exactly what the earlier office action had agreed would make the application allowable. To top it off, the USPTO’s next office action withdrew the allowance of all of these claims and rejected them over the ‘023 patent that the Examiner had agreed long ago to have been overcome. *See* 2/11/08 Office Action, p. 2.

The undersigned has never in his career seen such unduly prejudicial treatment of an application by the USPTO. It is even more unfortunate that such treatment occurred during the prosecution of an application for this highly innovative and commercially important invention.

A. Independent Claims 1, 3, and 42 and Dependent Claims 2, 43-49, and 51

Independent claims 1 and 3 each recite, among other things, an “indexable wear plate/piercing tip insert” with “a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region.” Independent claim 42 similarly recites, among other things, an “indexable wear plate/piercing tip insert” with a “metal tip portion disposed at each of said two longitudinal ends, each said tip portion protruding laterally with respect to a surface of said central region.”

The Examiner asserts that because (a) the ‘023 patent discloses a “a wear plate/piercing tip insert 140 having one [laterally protruding] cutting tip 144,” and (b) the ‘023 patent, Hrusch, and Aiken each disclose indexable cutting blades, “it would have been obvious to one skilled in the art at the time the invention was made to provide the wear plate/pierce tip insert 140 a symmetrical body [and second laterally protruding cutting tip 144] so that both ends of the wear plate/pierce tip insert 140 can be used by rotating the wear plate/pierce tip insert 140 as taught by Hrusch, Aiken and [the ‘023 patent] to prolong the useful life of the wear plate/pierce tip insert.” 12/22/08 Office Action, p. 4.

Appellants traverse the Examiner's assertion that it would have been obvious to one of ordinary skill in the art, in view of the '023 patent, Hrusch, and Aiken, to add a second laterally-protruding cutting tip 144 to the piercing tip 140 to make it indexable. Specifically, (1) there was no disclosure, suggestion, or other obvious reason to make the proposed modification to the '023 patent's piercing tip, (2) the Examiner's new citation to Hrusch and Aiken does not cure the admitted deficiencies of the '023 patent, (3) the pending rejection relies on impermissible hindsight, (4) the '023 patent teaches away from the proposed modification, and (5) substantial, and improperly ignored, objective evidence compels finding the claims non-obviousness.

1. There Was No Disclosure, Suggestion, or Other Reason To Make The Proposed Modification

There was no suggestion or other obvious reason to add a laterally protruding cutting tip 144 to an opposite side of the piercing tip 140 to make the piercing tip 140 indexable, as proposed by the Examiner. *See* the '023 patent, col. 6, lines 51-63; *see also* 12/22/08 Office Action, pp. 3-4. The Examiner improperly equates the known indexability of simple-geometry blade insert members with the obviousness of making the specific wear plate/piercing tip 140 with a laterally protruding cutting tip 144 indexable by adding a second laterally protruding cutting tip 144. In fact, the Examiner's cited conventional indexable blade inserts are categorically different than the non-indexable wear plate/piercing tip 140 with its single laterally protruding cutting tip 144.

As shown below, the '023 patent's non-indexable piercing tip 140 includes a laterally protruding cutting tip 144 and bosses (surrounding the apertures 150) that make the tip 140 geometrically complex and asymmetrical. Indeed, the piercing tip 140 has no axis of rotational symmetry or mirror-image plane.

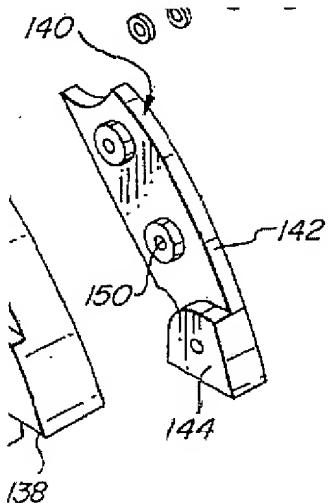
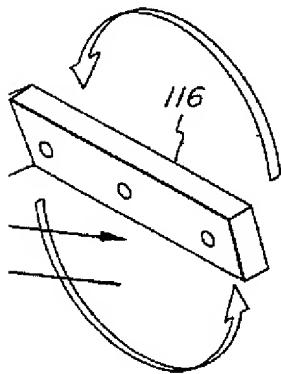


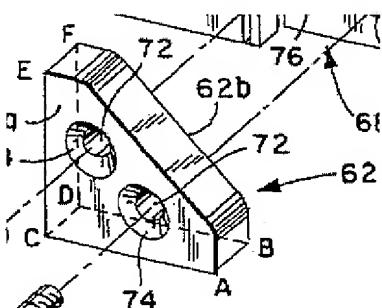
FIG. 10

The '023 Patent, FIG. 10(excerpted)

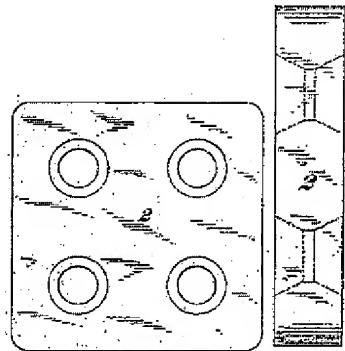
In contrast, as shown below, all of the Examiner's cited indexable inserts have simple, polygonal, planar-sided geometries with multiple axes of rotational symmetry and/or mirror-image planes. See the '023 patent, FIG. 13 (indexable blade 116); Hrusch, FIG. 6 (indexable blade 62); Aiken, FIG. 4 (indexable blade 2).



The '023 Patent, FIG. 14



Hrusch, FIG. 6



Aiken, FIGS. 3 and 4

Indeed, each of these conventional indexable blades includes a mirror-image plane that extends longitudinally along the blade. The Hrusch blade 62 also has a mirror-image plane that extends diagonally between the holes 72 and through its corner C. The Aiken blade 2 has four additional mirror image planes that bisect the blade 2 along lateral and diagonal planes.

The pending rejection fails to appreciate how one of ordinary skill in this heavy-duty demolition shears art would have understood responded to the categorical design and functional differences between the complex '023 patent's one-sided piercing tip 140 and the simple,

symmetrical indexable blades 116, 62, 2 in the '023 patent, Hrusch, and Aiken, respectively. As shown below, these differences demonstrate that it would not have been obvious to one of ordinary skill in the art to have applied the indexability of these conventional blade inserts to the disparate piercing tip 140:

- The blade insert members 116, 62, 2 in the '023 patent, Hrusch, and Aiken, respectively, have simple, symmetrical geometric configurations with simple support interfaces between them and the jaw to which they are mounted (i.e., the flat sides associated with flat mating sides of seats in the jaws). The simplicity of such interfaces and geometries lends itself to indexability. In contrast, the piercing tip 140, with its bosses (surrounding the apertures 150) and laterally-projecting cutting tip 144, uses a dramatically different structural and functional technique (e.g., a series of different interfaces between the surfaces of the nose piece 144 and bosses and multiple mating surfaces of the jaw 16) to support the tip 140 with the jaw 16. This dramatically different manner of supporting the tip 140 categorically distinguishes its operation and relation to the jaw 16 from the simple blade insert members 116, 62, 2 in the '023 patent, Hrusch, and Aiken, respectively, in the eyes of one of ordinary skill in the art.
- The simple geometry of the blade insert members 116, 62, 2 in the '023 patent, Hrusch, and Aiken, respectively, makes it easy for the stored edge of the blade insert member to mate with the blade seat in the jaw. In fact, these stored edges provide part of the structural connection between the jaw and the blade insert members 116, 62, 2 in the '023 patent, Hrusch, and Aiken, respectively. *See* the '023 patent, FIG. 10; Hrusch, FIGS. 6-7; Aiken, FIGS. 1-2. In contrast, the laterally protruding tip portion 144 on the piercing tip 140 prevents and/or unduly complicates analogous use of a stored tip portion 144 if the piercing tip 140 were to be made indexable by adding a second tip portion 144, as proposed by the Examiner. Thus, the proposed modification would apparently have unduly impeded the ability of the piercing tip 140 to be supported by the jaw 16 in an analogous manner as the blade insert members in the '023 patent, Hrusch, and Aiken.

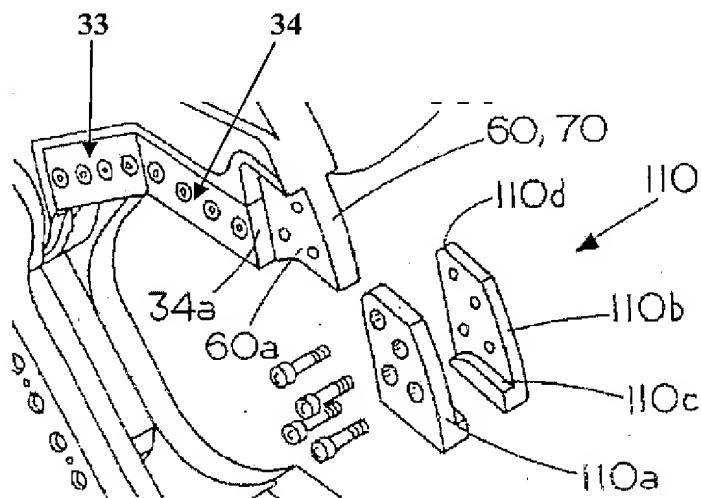
- The piercing tip 140 is generally elongated in the direction of force and/or movement of the upper jaw 16, which helps to transfer the high forces imparted on the tip 140 to the jaw 16. In contrast, the blade insert member 116 in the ‘023 patent is generally elongated in a direction perpendicular to the direction of force and/or movement of the upper jaw. Consequently, consideration of how forces transfer from these blade insert members 116 and piercing tip 140 to the jaw 16 is quite different, which illustrates the functional differences between how these disparate components operate in the context of a shears.
- The complex, asymmetric geometry of the piercing tip 140 (e.g., the laterally protruding cutting tip 144 and laterally protruding bosses) complicates the design of the seat in the upper jaw for the piercing tip 140. This complication is exacerbated by the fact that the proposed, modified piercing tip 140 would extend upwardly and then laterally into the main body of the upper jaw, which implicates further structural considerations with respect to the upper jaw. Such considerations are not present in the simple geometries of the indexable inserts 116, 62, 2 in the ‘023 patent, Hrusch, and Aiken, respectively.

These categorical design and functional differences between the indexable insert members 116, 62, 2 in the ‘023 patent, Hrusch, and Aiken, respectively, and the piercing tip 140 of the ‘023 patent demonstrate that it would not have been obvious to one of ordinary skill in the art to have applied the indexability of these conventional blade insert members to the disparate piercing tip 140. *See KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. ____ (see p. 14), 127 S.Ct. 1727, 1731, 82 USPQ.2d 1385, 1396 (2007) (holding that it is necessary to determine whether there was an "apparent reason" to combine the known elements in the claimed manner and, in this regard, holding that "[t]o facilitate review, this analysis should be made explicit."); *see also id.* ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.") (quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ 2d 1329, 1336 (Fed. Cir. 2006)).

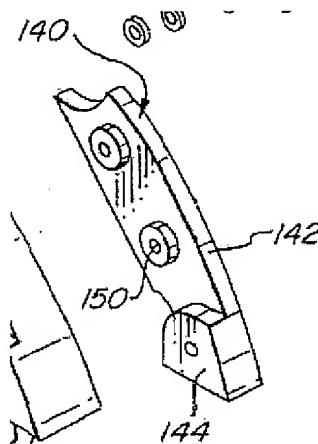
The ‘023 patent’s failure to make the Examiner’s proposed modification obvious is further emphasized by the ‘023 patent’s glaring failure to teach or suggest making the piercing tip 140 indexable, despite including detailed discussions and figures disclosing the indexability

of the blade insert member 116. See the '023 patent, FIGS. 4, 13, & 14, and col. 7, lines 19-44. If the Examiner's proposed modification to the piercing tip 140 was obvious in view of the '023 patent's disclosure of indexable blades 116, the '023 patent would have mentioned or suggested such a modification in view of the '023 patent's specific focus on indexability. The '023 patent suggests no such modification to the piercing tip 140 because such a modification was not suggested or contemplated by the '023 patent or obvious to one of ordinary skill in the art in view of the '023 patent.

The Examiner's newly cited reference, Jacobson, further proves this fundamental difference between indexable, simple geometry, multiple-symmetry blade inserts, and complex, asymmetrical geometry inserts with laterally protruding cutting tips like the tip 144 of the insert 140 in the '023 patent. As shown below, like the '023 patent, Jacobson utilizes non-indexable piercing tips 110a, 110b with laterally protruding cutting tips 110c, and no axes or planes of symmetry. See Jacobson, col. 3, line 37 ("ledge or flange 110c").



Jacobson, FIG. 2 (ref. nos. 33, 34 added)



The '023 Patent, FIG. 10

Like the '023 patent, Jacobson also discloses apparently indexable, simple geometry, multiple-symmetry cutting blades 33, 34, 36, 37. See Jacobson, col. 2, lines 60-65 and FIGS. 1-4. If it was obvious to apply such indexability to Jacobson's piercing tips 110a, 110b in view of the indexability of Jacobson's simple blade inserts 33, 34, 36, 37, Jacobson or his assignee Genesis Equipment and Manufacturing Inc. ("Genesis") would have done so. In fact, as explained below in section VII.A.5.b, it was only after Appellants' present invention and sales thereof that Genesis copied the present invention.

2. Hrusch and Aiken Do Not Cure The Deficiencies Of The '023 Patent

The prosecution history of the present application confirms that the cited art would not have made it obvious to add a second laterally-protruding cutting tip 144 to the piercing tip 140 to make it indexable. When Appellants initially appealed this application, all pending claims were rejected as obvious over the '023 patent alone. *See* 9/30/08 Appeal Brief; *see also* 8/7/08 Final Office Action. The August 7, 2008 Final Office Action asserted that because the '023 patent discloses "a wear plate/piercing tip insert 140 having one cutting tip 144" and also discloses indexable blade insert member 116, "it would have been obvious to one skilled in the art at the time the invention was made to provide the wear plate/pierce tip insert 140 the geometric configuration as taught in the blade 116 (which is to have two cutting tips) so that both ends of the wear plate/pierce tip insert 140 can be used to reduce the spare part of the wear plate/pierce tip insert." 8/7/08 Office Action, pp. 2-3. Appellants' original appeal brief explained why it would not have been obvious to apply the '023 patent's disclosed indexability of simple-geometry blade inserts 116 to the complex geometry piercing tip 140 with its laterally-protruding cutting tip 144.

In implicit recognition of this deficiency of the '023 patent, the Examiner reopened prosecution in order to assert that Hrusch's and/or Aiken's indexable blade inserts would have made it obvious to make the '023 patent's piercing tip 140 indexable by adding a second laterally-protruding cutting tip 144. *See* 12/22/08 Office Action, pp. 3-4. However, Hrusch and Aiken are entirely cumulative to the '023 patent, and fail to cure the Examiner's recognized deficiency in the '023 patent. Specifically, as explained above in Section VII.A.1, the simple geometry, planar-sided, multiple-symmetry indexable inserts 62, 2 in Hrusch and Aiken are just like the indexable blade insert 116 in the '023 patent. Thus, Hrusch and Aiken provide no better suggestion or obvious rationale than the '023 patent itself to add a second laterally-protruding cutting tip 144 to the '023 patent's non-indexable tip 140. The Examiner's recognition of the failure of the '023 patent to render obvious the present claims is essentially an admission that the newly added Hrusch and Aiken references are also deficient.

3. The Proposed Modification Relies On Impermissible Hindsight

The Examiner's proposed modification to the '023 patent's piercing tip 140 is improper because it relies on impermissible hind sight. To the extent that the Examiner argues that it would have been obvious to make a piercing tip indexable in view of the '023 patent, Hrusch,

and/or Aiken, Appellants submit that one of ordinary skill in the art would have applied such a teaching to a piercing tip that had a geometry and support technique that was similar to that of the blade insert members 116 of the '023 patent, the blade insert 62 of Hrusch, or the blade 4 of Aiken. For example, to the extent that the Examiner argues that it would have been obvious to make a piercing tip indexable, one of ordinary skill in the art would have converted a piercing tip like the simple piercing tip 124 illustrated in FIG. 2 of the '023 patent into an indexable piercing tip because the structure and support technique of the tip 124 is somewhat similar to the blade insert members 116 or the indexable blade inserts in Hrusch and Aiken.¹

Instead, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to have applied the indexability of the blade insert members 116 to a piercing tip 140 that uses a dramatically different structure and support technique, as discussed above. Appellants submit that the Examiner's rationale for applying the indexability of the simple geometry blade insert members of the '023 patent, Hrusch, and/or Aiken to a disparate piercing tip 140, rather than a simple geometry piercing tip 124, comes directly from the Appellants' present application, rather than the cited prior art or the obvious thoughts of one of ordinary skill in the art during the relevant timeframe. *See W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983) ("To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.").

4. The '023 Patent Teaches Away From The Proposed Modification

The Examiner's proposed modification to the piercing tip 140 of the '023 patent was non-obvious because it would have eliminated the "rhino horn" (identified by an added arrow in the

¹ Even if it was obvious to convert the tip 42 into an indexable piercing tip, the modified tip 42 would still not disclose or render obvious the combinations of recitations in the pending claims. The present claims do not recite just any indexable piercing tip. Rather they recite a specific piercing tip with a specific structure, i.e., an "indexable wear plate/piercing tip insert" with "a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region" (independent claims 1, 3, 4, 5, 7, 10, 12, 14, 16, 18, 19, and 20) or an "indexable wear plate/piercing tip insert" with "metal tip portion disposed at each of said two longitudinal ends, each said tip portion protruding laterally with respect to a surface of said central region" (claim 42). Making a conventional simple geometry piercing tip indexable would not result in the combinations of recitations in the pending claims.

below copy of FIG. 10 of the '023 patent) in the shears shown in the '023 patent. A "rhino horn" is a tine on a front, upper part of an upper jaw of a shears.

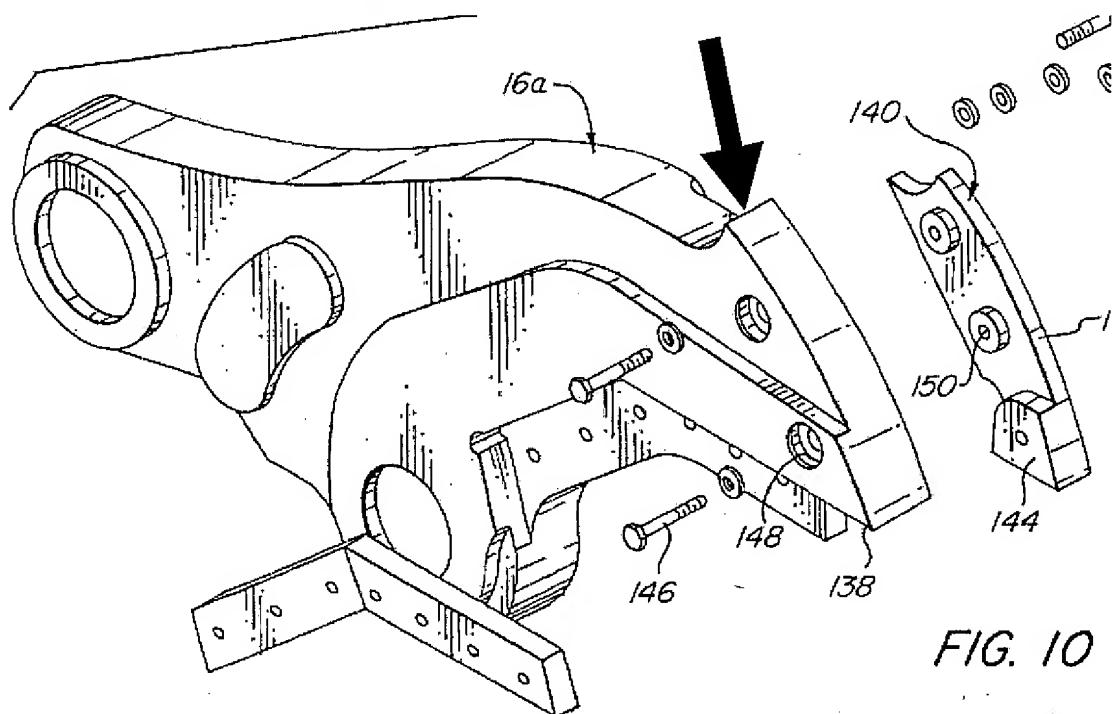


FIG. 10

The '023 Patent (Excerpt; arrow added)

A shears operator uses the rhino horn to manipulate material (e.g., to better position material to be sheared, to move material, to remove interfering debris, etc.). In the shears shown in FIG. 10 of the '023 patent, the rhino horn is formed by an upper part of the upper jaw 16 and an upper part of the piercing tip 140. Adding a second nose piece 144 to the piercing tip 140, as proposed by the Examiner, would have interfered with or eliminated the rhino horn.

The Examiner responds that:

[I]t would have been obvious to one skilled in the art not to expose the second cutting tip above the top of the moveable jaw 16 to interfere with the function of pulling roots of the moveable jaw. For example, Hrusch teaches several of [sic] reversible wear plate/pierce tip inserts wherein the non-used tips are not exposed above the moveable jaw. Jacobson and Hall teach wear plate/pierce tip inserts (100 in Jacobson and 14 in Hall) wherein the non-used ends are not exposed above the movable jaw.

12/22/08 Office Action, p. 4. Appellants specifically traverse the Examiner's assertions because they ignore the real world considerations of those in the art.

Under the Examiner's reasoning, it would be obvious to add a second laterally-protruding cutting tip 144 to the '023 patent's piercing tip 140, and then position that non-used, laterally-protruding tip 144 below the top of the movable jaw 16 in the '023 patent. However, such a modification would require boring out part of the jaw 16 to provide space for the non-used second tip 144, and those skilled in the art would have thought that such boring would significantly weaken the structural integrity of the upper jaw. Jaw strength and power is critical to the relevant heavy-duty demolition shears art, and those skilled in the art would have thought that the Examiner's proposed modification would hurt both. One of ordinary skill in the art would not have made such a modification because (a) he/she would have thought that it would weaken a structurally significant part of the upper jaw in a product where strength of the jaws is critical, and (b) it would complicate the manufacture of the upper jaw.

The Examiners' newly-cited prior art actually proves this point. The Examiner cites Hrusch, Jacobson, and Hall in support of the Examiner's assertion that it would be obvious to dispose an added laterally-protruding cutting tip 144 of a modified tip 140 below a top of the jaw 16 in the '023 patent. *See* 12/22/08 Office Action, p. 4. However, neither Hrusch nor Hall involve blade inserts with laterally protruding tips that would require accommodating space in the body of their associated jaws (and the perceived accompanying weakening of the jaw). Jacobson does disclose a laterally-protruding cutting tip 110a, 110b, but its non-indexable use of a single laterally-protruding cutting tip does not require the associated jaw to include a space to accommodate a non-existent second laterally-protruding cutting tip (or the perceived accompanying weakening of the jaw). Indeed, in this regard, Jacobson is entirely cumulative to the '023 patent.

Accordingly, the '023 patent, as understood by one of ordinary skill in the art, teaches away from the Examiner's proposed modification because it would have interfered with or eliminated an advantageous rhino horn of the shears shown in the '023 patent. The proposed combination was therefore nonobvious. *See* MPEP 2143.01(V) ("If proposed modification would render the prior art being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification."); *see also* MPEP 2145(X)(D)(2) ("It is improper to combine references where the references teach away from their combination.") (citation omitted).

5. The Objective Evidence of Non-Obviousness Is Compelling

Even if the proposed modification to the '023 patent's piercing tip was *prima facie* obvious (it was not), compelling objective evidence proves that the present claims are nonobvious. As explained below, the Examiner improperly ignored all of this evidence in earlier office actions, and entirely ignores this evidence in the December 22, 2008 Office Action. The Federal Circuit explains:

Under *Graham [v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)], objective evidence of nonobviousness includes commercial success, longfelt but unresolved need, failure of others, and copying. When present, such objective evidence **must be considered**. It can be the most probative evidence of nonobviousness in the record and enables the district court to avert the trap of hindsight.

Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc., 807 F.2d 955, 960, 1 USPQ.2d (BNA) 1196, 1199 (Fed. Cir. 1986) (emphasis added). "[E]vidence of secondary considerations may often be the most probative and cogent evidence in the record. It may often establish that an invention appearing to have been obvious in light of the prior art was not." *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538-39, 218 USPQ (BNA) 871, 879 (Fed. Cir. 1983).

Indeed, even after the *KSR* decision on obviousness, the Federal Circuit has still maintained that the Examiner must consider secondary evidence that rebuts any *prima facie* case of obviousness. *See In re Sullivan*, 498 F.3d 1345, 84 USPQ.2d 1034 (Fed. Cir. 2007) (remanding finding of obviousness by Board of Patent & Appeals under *KSR* for failing to adequately consider secondary evidence of nonobviousness):

We agree with applicant that the Board improperly failed to consider the rebuttal evidence and we therefore vacate the Board's decision and remand for the Board to consider the declarations. It is well settled that the PTO "bears the initial burden of presenting a *prima facie* case of unpatentability.... However, when a *prima facie* case is made, the burden shifts to the applicant to come forward with evidence and/or argument supporting patentability." *In re Glaug*, 283 F.3d 1335, 1338 [62 USPQ2d 1151] (Fed. Cir. 2002). Rebuttal evidence is "merely a showing of facts supporting the opposite conclusion." *In re Piasecki*, 745 F.2d 1468, 1472 [223 USPQ 785] (Fed. Cir. 1984). Evidence rebutting a *prima facie* case of obviousness can include: "evidence of unexpected results," *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1369 [82 USPQ2d 1321] (Fed. Cir. 2007), evidence "that the prior art teaches away from the claimed invention in any material respect," *In re Peterson*, 315 F.3d 1325, 1331 [65 USPQ2d 1379] (Fed. Cir. 2003), and evidence of secondary considerations, such as commercial success and long-felt but unresolved needs, *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1359 [51 USPQ2d 1385] (Fed. Cir. 1999). When a patent applicant puts

forth rebuttal evidence, the Board must consider that evidence. *See In re Soni*, 54 F.3d 746, 750 [34 USPQ2d 1684] (Fed. Cir. 1995) (stating that “all evidence of nonobviousness must be considered when assessing patentability”); *In re Sernaker*, 702 F.2d 989, 996 [217 USPQ 1] (Fed. Cir. 1983) (“If, however, a patent applicant presents evidence relating to these secondary considerations, the board must always consider such evidence in connection with the determination of obviousness.”).

In re Sullivan, 498 F.3d at 1351, 84 USPQ.2d at 1038.

Here, the nonobviousness of the pending claims is demonstrated by (1) the invention’s commercial success, (2) reformed infringers’ copying of and subsequent acquiescence to the patentable strength of the claimed invention, and (3) the European Patent Office’s grant of the counterpart European patent application.

a. The Commercial Success Of The Invention Proves Its Nonobviousness

To establish commercial success, Appellants must establish A) the commercial success of a product embodying the invention, and B) “a nexus . . . between the sales and the merits of the claimed invention,” i.e., that the commercial success was “a direct result of the unique characteristics of the claimed invention.” *In re Huang*, 100 F.3d 135, 140, 40 USPQ2d 1685, 1690 (Fed. Cir. 1996). The previously filed declaration of Clayton Sederberg (“Sederberg Decl.”) (App. X.A) demonstrates both of these requirements.

Specifically, the pending independent claims cover Stanley’s MSD Saber series of shears, the upper jaw thereof, and/or the indexable piercing tip thereof. *See Sederberg Decl.* (App. X.A), ¶ 4. In view of the high sales price for each of these heavy-duty shears, the sale of over 1100 such MSD Saber series shears demonstrates the commercial success of the invention-embodying product. *See Sederberg Decl.* (App. X.A), ¶ 7. The commercial success is further demonstrated by the fact that Stanley incorporated the present invention into 96% of the shears that it has sold since 2005. *See Sederberg Decl.* (App. X.A), ¶ 6.

The nexus between the commercial success and the claimed invention is demonstrated by the fact that Stanley was not able to successfully commercialize the shears shown in FIG. 10 of the commonly owned ‘023 patent with a non-indexable piercing tip, but did successfully commercialize the shears with the indexable piercing tip according to the present invention. *See Sederberg Decl.* (App. X.A), ¶¶ 3-7. The nexus between the commercial success and the claimed invention is further demonstrated by the fact that “the ability to index the piercing tip

enables customers to get twice as much use out of this wearable, replaceable component,” which effectively doubles the value to the customer. Sederberg Decl. (App. X.A), ¶ 8. Moreover, the nexus between the commercial success of the present invention and the Saber shears’ inclusion of the claimed invention is further demonstrated by the fact that the claimed indexable piercing tip is not only twice as useful as the non-indexable piercing tip in the ‘023 patent, but is also 33% less expensive to manufacture. *See* Sederberg Decl. (App. X.A), ¶ 5. “This cost savings is directly attributable to the fact that the ‘metal tip portion disposed at each of said two ... ends, each said tip portion protruding laterally with respect to a surface of said central region,’ as recited each pending independent claim, requires less machining than the non-indexable tip of the ‘023 patent.” Sederberg Decl. (App. X.A), ¶ 5. Thus, the presently claimed indexable tip has provided Stanley with substantial cost savings that simultaneously provides the customer with a piercing tip that has twice the useful life. *See* Sederberg Decl. (App. X.A), ¶ 5.

Further still, the fact that two of Stanley’s competitors, Genesis and Trevi Benne, copied the claimed invention to sell themselves, proves the commercial significance and success of the invention. *See* Sederberg Decl. (App. X.A), ¶¶ 9-10 and 12-13; *see also* *Bose Corp. v. JBL, Inc.*, 112 F. Supp.2d 138, 156 (D. Mass. 2000) (“[an infringer’s] adulation of the [product] is the best evidence of the extent of its commercial success.”). Indeed, these competitors’ “imitation is the sincerest form of flattery.” *Ingersoll-Rand Co. v. Brunner & Lay, Inc.* 474 F.2d 491, 497, 177 USPQ 112, 116 (5th Cir. 1973).

The Examiner earlier responded to this commercial success evidence by asserting that “evidence of the commercial success does mean that it is unobvious to modify the cutting tip.” 8/7/08 Office Action, p. 4. Initially, Appellants presume that the Examiner intended to include the word “not” somewhere in this sentence. Typographical errors aside, the Examiner’s statement is legally wrong, as evidence of commercial success is direct and objective evidence of the nonobviousness of the Examiner’s proposed modification to the ‘023 patent’s tip. The Examiner’s improper failure to consider this commercial success evidence, alone, warrants the reversal of the pending rejection.

The Examiner went on to assert that “the commercial success could be due to a good marketing plan but not the structure of the cutting tip itself.” 8/7/08 Office Action, p. 4. The Examiner’s conclusory argument failed to appreciate, address, or rebut Appellants’ above-

discussed substantial proof of the direct nexus between the commercial success and the structure of the claimed invention.

Despite the fact that Appellants made the above-arguments in their original Appeal Brief, the Examiner's new December 22, 2008 Office Action does not even mention this evidence, much less respond to Appellants' above arguments. Such total disregard for Appellants' objective evidence, alone, necessitates reversal of the pending rejection.

This compelling evidence proves that the presently claimed invention has been commercially successful and that such success is directly attributable to its use of the presently claimed invention. Such commercial success of the invention proves that the pending independent claims are nonobvious.

b. Competitors' Copying of the Invention and Subsequent Respect for the Value of the Claimed Invention Proves Its Nonobviousness

Competitors' copying of the presently claimed invention further demonstrates its nonobviousness. *See Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1284-86 54 USPQ.2d 1673, 1681-82 (Fed. Cir. 2000) ("Objective considerations such as ... copying may often be the most probative and cogent evidence of nonobviousness.") (citations and quotations omitted). Here, Genesis and Trevi Benne have both copied and infringed the indexable piercing tip independent claims 1, 3, and 42. *See Sederberg Decl. (App. X.A)*, ¶¶ 9, 12; *see also* Sederberg Decl. (App. X.A), Exs. B and F (photographs of the copied indexable piercing tips).

The significance of these competitors' copying of the claimed invention is highlighted by the fact that the prior art is riddled with conventional piercing tips, even Genesis' own indexable piercing tip, yet the value of the present invention was so significant that both Genesis and Trevi Benne felt compelled to copy Stanley's indexable piercing tip rather than use a conventional piercing tip. *See, e.g.*, U.S. Patent No. 6,926,217, FIG. 8 (illustrating Genesis' own indexable piercing tip 70); U.S. Patent Nos. 6,061,911, 6,119,970, and 6,839,969 (illustrating Genesis' own additional conventional piercing tips); U.S. Patent No. 5,992,023, FIGS. 1, 4, 7, 9 (illustrating four different conventional piercing tips); U.S. Patent No. 6,994,284 (illustrating another conventional piercing tip); *Panduit Corp. v. Dennison Mfg. Co.* 774 F.2d 1082, 1099, 54 USPQ.2d 337, 349 (Fed. Cir. 1985) ("That Dennison, a large corporation with many engineers on its staff, did not copy any prior art device, but found it necessary to copy the cable tie of the

claims in suit, is equally strong evidence of nonobviousness.”); *Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 991, 6 USPQ.2d 1601, 1608 (Fed. Cir. 1988 (“[T]he infringer closely copied the invention in the ... patent. Copying the claimed invention, rather than one in the public domain, is indicative of unobviousness.”) (citations and quotation omitted)).

Genesis’ copying is even more significant here because the pending rejection relies on Genesis’ own patent, U.S. Patent No. 6,839,969 to Jacobson. Instead of following Jacobson, Genesis felt compelled to copy Stanley’s presently claimed invention. Such copying poignantly proves the value of the difference between the prior art Jacobson and the presently claimed invention.

When Stanley informed Genesis and Trevi Benne of Stanley’s intellectual property rights and the present application, both competitors agreed to stop their infringement. *See Sederberg Decl.* (App. X.A), at ¶¶ 10, 13; *see also id.* at Ex. C, 2/28/06 letter from Stanley’s counsel to Genesis (disclosing the present application and demanding that Genesis stop selling indexable piercing tips covered by the claims of the present application); *id.* at Ex. D, 3/10/06 letter from Genesis’ counsel to Stanley’s counsel (“Genesis has decided to stop making and selling a rotatable indexable shear tip for use with Stanley LaBounty’s MSD Saber shears.”); *id.* at Ex. G, 6/13/06 letter from Stanley’s counsel to Trevi Benne (disclosing the present application and counterpart European application to Trevi Benne stop); *id.* at Ex. H, 8/9/06 letter from Trevi Benne’s counsel to Stanley’s counsel (“Trevi Benne is ready to eliminate the reversible plates of CS series shears replacing them by irreversible plates...”). These competitors’ acquiescence to the value and strength of Stanley’s present invention further demonstrates the presently claimed invention’s nonobviousness. Cf. *In re Mahurkar Patent Litigation*, 28 U.S.P.Q.2d (BNA) 1801, 1820 (N.D. Ill. 1993), *aff’d*, 71 F.3d 1573 (Fed. Cir. 1995) (“The settlement of patent litigation may be functionally identical to a license – indeed, often includes an explicit license – and the willingness of other firms to take licenses is one secondary indicator of validity.”). Genesis and Trevi Benne are well positioned to be aware of any and all relevant prior art. Had either of these competitors been aware of prior art that would render the present claims obvious, they surely would have asserted such prior art. The absence of any such assertions further demonstrates the nonobviousness of the presently claimed invention.

The Examiner previously responded to this evidence by asserting that the copies are “not identical to the claimed product and the other manufacturers had not tried a substantial amount of

time to develop its [sic] own product.” 87/08 Office Action, p. 4. The Examiner is both factually and legally mistaken.

Factually, Appellants’ evidence directly proves that the competitors’ copies are identical to the claimed product and/or encompassed by the scope of the claims. *See, e.g.*, Sederberg Decl. (App. X.A), Ex. B (photographs of competitor Genesis’ copied indexable piercing tips, which prove that Genesis’ product is identical to Appellants’ product (shown in Ex. A of the Sederberg Decl.) and also identical to the indexable piercing tip shown in FIGS. 3-7 of the present application and covered by pending independent claims 1, 3, 4, and 42); Sederberg Decl. (App. X.A), Exs. F and G (photographs of Trevi Benne’s copied shears and indexable piercing tips, which proves that Trevi Benne’s indexable piercing tip, associated jaw, and associated shears are covered at least by pending independent claims 1, 3, 5, 7, 12, 14, 16, 18, 20, and 42).

The Examiner noted that “photocopies of the piercing tips provided in the [Sederberg] affidavit have very low quality and thus, the Examiner cannot compare Genesis piercing tip to Stanley piercing tip.” 8/7/08 Office Action, p. 5. The photographs then available on PAIR were of much lower quality than that of the photographs as filed and as included in the EFS filing confirmation of Appellants’ filing of the Sederberg declaration. Appellants are unsure what caused this degradation in PAIR. Nonetheless, Appellants’ submission of these photographs in their original September 30, 2009 Appeal Brief were of much better quality. Appellants hope and expect that the copy of the Sederberg declaration attached hereto as App. X.A. will maintain the high image quality of the declaration as originally filed and as available on PAIR in the September 30, 2008 original Appeal Brief. Moreover, the undersigned avers that the Genesis’ tips in Ex. B of the Sederberg declaration are structurally identical to Stanley’s own tips (illustrated in Ex. A of the Sederberg Decl.) and the tip illustrated in FIGS. 5-7 of the present application and claimed in pending claims 1, 3, 4, and 42.

Legally, contrary to the Examiner’s assertions, the viability of the above evidence of competitors’ copying and subsequent respect for the claimed invention does not depend on evidence that “the other manufacturers had [] tried a substantial amount of time to develop its own product.” 8/7/08 Office Action, p. 4. Indeed, Appellants submit that the Examiner has confused the separate category of objective evidence relating to longfelt but unmet need. The Examiner’s improper failure to consider Appellants’ objective evidence of copying and subsequent respect for the claimed invention is reversible for this reason alone.

The Examiner also ignored Appellants' evidence of competitors' copying and subsequent respect for the claimed invention on the ground that the competitors may have copied due to "lacking of concern" over the strength/validity of Appellants' claimed invention. 8/7/08 Office Action, p. 5. However, both of these competitors' agreements to cease infringement of the claimed invention squarely refutes the Examiner's allegation, as it reveals that both competitors did, indeed, acquiesce to the value and strength of Appellants' claimed invention. *See* Sederberg Decl. (App. X.A), at ¶¶ 10, 13; *see also id.* at Ex. D, 3/10/06 letter from Genesis' counsel to Stanley's counsel ("Genesis has decided to stop making and selling a rotatable indexable shear tip for use with Stanley LaBounty's MSD Saber shears."); *id.* at Ex. H, 8/9/06 letter from Trevi Benne's counsel to Stanley's counsel ("Trevi Benne is ready to eliminate the reversible plates of CS series shears replacing them by irreversible plates...").

Despite the fact that Appellants made the above-arguments in their original September 30, 2008 Appeal Brief, the Examiner's new December 22, 2008 Office Action does not even mention this evidence, much less respond to Appellants' above arguments. Such total disregard for Appellants' objective evidence, alone, necessitates reversal of the pending rejection.

c. The European Patent Office Found the Present Invention Patentable

The European Patent Office allowed and issued the European counterpart to the present application, i.e., European Patent No. 1,682,299 B1 ("the EP '299 patent") (copy enclosed as Ex. E to the Sederberg Decl.) (App. X.A). The claims of the EP '299 patent are as broad or broader than the presently pending claims. *See id.* The European Patent Office's allowance and issuance of such claims further demonstrates their nonobviousness, especially in view of the fact that the European Patent Office explicitly considered the '023 patent and ultimately found the claims patentable over it. *See* WO 2005/044493 A1 (PCT counterpart to the present application), at Search Report (European Patent Office citation of the '023 patent).

While the EPO's obviousness standard may be slightly different than the U.S. standard, the fact that the EPO issued claims that are as broad or broader than the pending claims at least calls into question the presence of a *prima facie* case of obviousness, and warrants placing that much more weight on the above-discussed objective evidence of non-obviousness.

d. Conclusion

Any one of the above objective criteria would be sufficient to demonstrate the nonobviousness of claims 1, 3, and 42. The presence of all of them provides compelling and objective proof that these claims are nonobvious.

6. Conclusion

For these reasons, Appellants respectfully submit that the Examiner's proposed modification of the piercing tip in the '023 patent would not have been obvious to one of ordinary skill in the art in view of the cited prior art. Appellants therefore respectfully request the reversal of the obviousness rejection of the independent claims 1, 3, and 42, as well as their respective dependent claims 2, 43-49, and 51, which are allowable at least because they depend from patentable independent claims.

B. Independent Claim 4 and Dependent Claims 40 and 41

Appellants separately traverse the obviousness rejection as applied to independent claim 4. Independent claim 4 recites, among other things, an "indexable wear plate/piercing tip insert" with "a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region." Claim 4 is patentable over the cited prior art for substantially the same reasons as discussed above with respect to claims 1, 3, and 42.

Additionally, there is similar objective evidence that Genesis copied the invention in claim 4, and subsequently respected the value of the invention claimed in claim 4. Specifically, in addition to the evidence discussed above with respect to claims 1, 3, and 42, Appellants' evidence directly proves that Genesis' copied product is identical to Appellants' product (shown in Ex. A of the Sederberg Decl.) and also identical to the indexable piercing tip shown in FIGS. 3-7 of the present application and covered by pending independent claim 4. *See* Sederberg Decl. (App. X.A), Ex. B (photographs of Genesis' copied indexable piercing tips); *id.* at Ex. A (photographs of Appellants' indexable piercing tips).

Appellants therefore respectfully request the reversal of the obviousness rejection of the independent claim 4, as well as its dependent claims 40 and 41, which are allowable at least because they depend from patentable independent claim 4.

C. Independent Claims 5, 7, 10, 12, 14, 16, 18, and 20 and Dependent Claims 6, 8, 9, 11, 13, 15, 17, 21, 22, 53, and 55-57

Appellants separately traverse the obviousness rejection as applied to independent claims 5, 7, 10, 12, 14, 16, 18, and 20. Independent claims 5, 7, 10, 12, 14, 16, 18, and 20 each recite, among other things, an “indexable wear plate/piercing tip insert” with “a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region.” These claims are patentable over the cited prior art for substantially the same reasons as discussed above with respect to claims 1, 3, and 42.

Additionally, there is similar objective evidence that Trevi Benne copied the invention in claims 5, 7, 10, 12, 14, 16, 18, and 20, and subsequently respected the value of the invention claimed in these claims. Specifically, in addition to the evidence discussed above with respect to claims 1, 3, and 42, Appellants’ evidence directly proves that Trevi Benne’s indexable piercing tip, associated jaw, and associated shears are covered at least by pending independent claims 5, 7, 10, 12, 14, 16, 18, and 20. *See* Sederberg Decl. (App. X.A), Exs. F and G (photographs of Trevi Benne’s copied shears and indexable piercing tips).

Appellants therefore respectfully request the reversal of the obviousness rejection of the independent claims 5, 7, 10, 12, 14, 16, 18, and 20, as well as their respective dependent claims 6, 8, 9, 11, 13, 15, 17, 21, 22, 53, and 55-57, which are allowable at least because they depend from patentable independent claims 5, 7, 10, 12, 14, 16, 18, or 20.

D. Independent Claim 19

Appellants separately traverse the obviousness rejection as applied to independent claim 19. Independent claim 19 recites, among other things, an “indexable wear plate/piercing tip insert” with “a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region.” Claim 19 is patentable over the cited prior art for substantially the same reasons as discussed above with respect to claims 1, 3, and 42. However, the objective evidence of Genesis’ and Trevi Benne’s copying may apply differently to claim 19. Appellants therefore respectfully request the reversal of the obviousness rejection of the independent claim 19, as well as its dependent claims, which are allowable at least because they depend from patentable independent claim 19.

E. Dependent Claim 46

Appellants separately traverse the obviousness rejection as applied to dependent claim 46, which recites, among other things, “a first notch [that] extends into the central region from the first generally planar edge surface,” and “a second notch [that] extends into the central region from the second generally planar edge surface.” The cited prior art does not disclose, suggest, or otherwise render obvious such a combination of recitations. Appellants identified this deficiency in the Examiner’s ‘023 patent-based obviousness rejection on page 13 of Appellants’ December 26, 2006 Response, on page 11 of Appellants’ May 6, 2008 Response, and on page 36 of Appellants’ original September 30, 2008 Appeal Brief, but the February 11, 2008, August 8, 2008, and December 22, 2008 Office Actions all failed to substantively respond to Appellants’ arguments. Nor have the February 11, 2008, August 7, 2008, or December 22, 2008 Office Actions identified how or where any of the cited prior art discloses or renders obvious the combination of recitations in claim 46.

Additionally, there is compelling objective evidence that Genesis copied the invention in claim 46, and subsequently respected the value of the invention claimed in claim 46. Specifically, in addition to the evidence discussed above with respect to claims 1, 3, and 42, Appellants’ evidence directly proves that Genesis’ copied product is identical to Appellants’ product (shown in Ex. A of the Sederberg Decl.) and also identical to the indexable piercing tip shown in FIGS. 3-7 of the present application and covered by pending dependent claim 46. *See* Sederberg Decl. (App. X.A), Ex. B (photographs of Genesis’ copied indexable piercing tips showing the “first notch [that] extends into the central region from the first generally planar edge surface,” and “second notch [that] extends into the central region from the second generally planar edge surface,” as recited in claim 46); *id.* at Ex. A (photographs of Appellants’ indexable piercing tips).

Appellants therefore respectfully request the withdrawal of the obviousness rejection of claim 46 over the cited prior art.

VIII. CONCLUSION

In view of the foregoing, Appellants request the reversal of the pending rejections of claims 1-22, 40-49, 51, 53, and 55-57.

Having overcome all objections and rejections, Appellants therefore respectfully request allowance of the present application.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

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Enclosures: Appendix IX. Claims Appendix
Appendix X. Evidence Appendix
Appendix XI. Related Proceedings Appendix

IX. CLAIMS APPENDIX (37 C.F.R. § 41.37(c)(1)(viii))

The following pending claims 1-22, 40-49, 51, 53, and 55-57, as presented in Appellants' May 30, 2007 Amendment, are being appealed:

1. (Previously Presented) An indexable wear plate/piercing tip insert configured to be attached at a front, nose portion of a correspondingly configured movable jaw of a metal demolition shears, the wear plate/piercing tip insert comprising:

a metal body having a central region and two ends, and

a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region in the direction of a first side of said body so as to define a piercing tip that extends at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw;

wherein a second side of said body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said second side of said body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface;

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said wear plate/piercing tip insert on the movable jaw, and

wherein rotation of the wear plate/piercing tip insert between the first and second positions swaps the shearing edges of the two metal tip portions between operative and non-operative positions.

2. (Original) The wear plate/piercing tip insert of claim 1, wherein said second position is a position in which the wear plate/piercing tip insert is rotated by 180° about said pivot axis.

3. (Previously Presented) An indexable wear plate/piercing tip insert configured to be attached at a front, nose portion of a correspondingly configured movable jaw of a metal demolition shears, the wear plate/piercing tip insert comprising:

a metal body having a central region and two ends, and

a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region in the direction of a first side of said body so as to define a piercing tip that extends at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw;

wherein a second side of said body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said second side of said body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface;

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said wear plate/piercing tip insert on the movable jaw, and

wherein the shearing edge of each tip portion is coplanar with and forms an edge of said generally planar surface.

4. (Previously Presented) An indexable wear plate/piercing tip insert configured to be

attached at a front, nose portion of a correspondingly configured movable jaw of a metal demolition shears, the wear plate/piercing tip insert comprising:

a metal body having a central region and two ends;

a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region in the direction of a first side of said body so as to define a piercing tip that extends at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw; and

at least one boss or dowel that is located between said metal tip portions and that extends laterally from said central region in the direction of the first side of said body,

wherein a second side of said body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said second side of said body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface;

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said wear plate/piercing tip insert on the movable jaw.

5. (Previously Presented) A metal demolition shears, comprising:

a fixed jaw having a fixed blade member with a first cutting/shearing edge extending therealong and a guide member spaced from and extending in generally parallel relation to said fixed blade member;

a movable jaw with a second cutting/shearing edge extending therealong and that pivots relative to said fixed jaw; and

an indexable wear plate/piercing tip insert that is attached at a front, nose portion of said movable jaw, the wear plate/piercing tip insert comprising a metal body having a central region and two ends and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region in the direction of a first side of said body so as to define an integral piercing tip that extends at least partially across the width of the front, nose portion of the movable jaw;

wherein a second side of said body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said second side of said body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable blade member; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface,

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for said metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert on said movable blade member, and

wherein rotation of the wear plate/piercing tip insert between the first and second positions swaps the shearing edges of the two metal tip portions between operative and non-operative positions.

6. (Original) The metal demolition shears of claim 5, wherein said second position is a position in which the wear plate/piercing tip insert is rotated by 180° about said pivot axis.

7. (Previously Presented) A metal demolition shears, comprising:

a fixed jaw having a fixed blade member with a first cutting/shearing edge extending therewith and a guide member spaced from and extending in generally parallel relation to said fixed blade member;

a movable jaw with a second cutting/shearing edge extending therealong and that pivots relative to said fixed jaw; and

an indexable wear plate/piercing tip insert that is attached at a front, nose portion of said movable jaw, the wear plate/piercing tip insert comprising a metal body having a central region and two ends and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region in the direction of a first side of said body so as to define an integral piercing tip that extends at least partially across the width of the front, nose portion of the movable jaw,

wherein a second side of said body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert,

wherein each said tip portion has a shearing edge on said second side of said body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable blade member,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface,

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for said metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert on said movable blade member, and

wherein the front, nose portion of the movable jaw member has a pocket or cavity extending laterally inwardly from a surface thereof into which the tip portions of the wear plate/piercing tip insert each fit, one of the tip portions being fitted in said pocket or cavity when positioned in a non-operative position.

8. (Original) The metal demolition shears of claim 7, wherein the pocket or cavity has contours that match surface contours of the tip portions.

9. (Previously Presented) The metal demolition shears of claim 5, wherein the front,

nose portion of the movable jaw member has a notch formed in an underside thereof, the notch having surface contours that match surface contours of each of the tip portions, wherein one of the tip portions that is positioned in the operative position engages with said notch.

10. (Previously Presented) A metal demolition shears, comprising:

a fixed jaw having a fixed blade member with a first cutting/shearing edge extending therealong and a guide member spaced from and extending in generally parallel relation to said fixed blade member;

a movable jaw with a second cutting/shearing edge extending therealong and that pivots relative to said fixed jaw; and

an indexable wear plate/piercing tip insert that is attached at a front, nose portion of said movable jaw, the wear plate/piercing tip insert comprising a metal body having a central region and two ends and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region in the direction of a first side of said body so as to define an integral piercing tip that extends at least partially across the width of the front, nose portion of the movable jaw,

wherein a second side of said body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert,

wherein each said tip portion has a shearing edge on said second side of said body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable blade member,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface;

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for said metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert on said movable blade member, and

wherein said wear plate/piercing tip insert further comprises at least one boss or dowel that is located between said metal tip portions and that extends laterally from said central region in the direction of the first side of said body and wherein the front, nose portion of the movable jaw has a depression extending laterally inwardly from a surface thereof that matches surface contours of said at least one boss or dowel, said at least one boss or dowel fitting within said depression.

11. (Original) The metal demolition shears of claim 5, wherein the second cutting/shearing edge is provided by at least one blade insert member.

12. (Previously Presented) A metal demolition shears, comprising:
a fixed jaw having a fixed blade member with a first cutting/shearing edge extending therealong and a guide member spaced from and extending in generally parallel relation to said fixed blade member;

a movable jaw with a second cutting/shearing edge extending therealong and that pivots relative to said fixed jaw; and

an indexable wear plate/piercing tip insert that is attached at a front, nose portion of said movable jaw, the wear plate/piercing tip insert comprising a metal body having a central region and two ends and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region in the direction of a first side of said body so as to define an integral piercing tip that extends at least partially across the width of the front, nose portion of the movable jaw,

wherein a second side of said body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert,

wherein each said tip portion has a shearing edge on said second side of said body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable blade member,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said

wear plate/piercing tip insert, normal to said generally planar surface,

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for said metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert on said movable blade member,

wherein the second cutting/shearing edge is provided by at least one blade insert member, and

wherein the blade insert member extends all the way to a forwardmost portion of the front, nose portion of the movable jaw and wherein an inner-facing surface of one of the tip portions that is in an operative position engages with an inner-facing surface of the blade insert.

13. (Original) The metal demolition shears of claim 12, wherein forward-facing surfaces of the tip portion in the operative position and the blade insert are co-planar and bottom-facing surfaces of the tip portion in the operative position and the blade insert are co-planar such that a forward portion of the blade insert and a forward, lower portion of the tip portion in the operative position together define a piercing tip portion of the movable jaw.

14. (Previously Presented) A jaw member for use in a metal demolition shears, said jaw member comprising:

a jaw body with a cutting/shearing edge extending therealong; and

an indexable wear plate/piercing tip insert that is attached at a front, nose portion of said jaw body, the wear plate/piercing tip insert comprising a metal insert body having a central region and two ends and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region in the direction of a first side of said insert body so as to define an integral piercing tip that extends at least partially across the width of the front, nose portion of the jaw body;

wherein a second side of said insert body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said second side of said insert body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the jaw

body; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface,

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert body on said movable blade member, and

wherein rotation of the wear plate/piercing tip insert between the first and second positions swaps the shearing edges of the two metal tip portions between operative and non-operative positions.

15. (Original) The jaw member of claim 14, wherein said second position is a position in which the wear plate/piercing tip insert is rotated by 180° about said pivot axis.

16. (Previously Presented) A jaw member for use in a metal demolition shears, said jaw member comprising:

a jaw body with a cutting/shearing edge extending therealong; and

an indexable wear plate/piercing tip insert that is attached at a front, nose portion of said jaw body, the wear plate/piercing tip insert comprising a metal insert body having a central region and two ends and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region in the direction of a first side of said insert body so as to define an integral piercing tip that extends at least partially across the width of the front, nose portion of the jaw body,

wherein a second side of said insert body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said second side of said insert body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the jaw body,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface,

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert body on said movable blade member, and

wherein the front, nose portion of the jaw body has a pocket or cavity extending laterally inwardly from a surface thereof into which the tip portions of the wear plate/piercing tip insert each fit, one of the tip portions being fitted in said pocket or cavity when positioned in a non-operative position.

17. (Original) The jaw member of claim 16, wherein the pocket or cavity has contours that match surface contours of the tip portions.

18. (Previously Presented) A jaw member for use in a metal demolition shears, said jaw member comprising:

a jaw body with a cutting/shearing edge extending therealong; and

an indexable wear plate/piercing tip insert that is attached at a front, nose portion of said jaw body, the wear plate/piercing tip insert comprising a metal insert body having a central region and two ends and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region in the direction of a first side of said insert body so as to define an integral piercing tip that extends at least partially across the width of the front, nose portion of the jaw body,

wherein a second side of said insert body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert,

wherein each said tip portion has a shearing edge on said second side of said insert body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the jaw body,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface,

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert body on said movable blade member, and

wherein the front, nose portion of the jaw member has a notch formed in an underside thereof, the notch having surface contours that match surface contours of the tip portions, wherein one of the tip portions that is positioned in an operative position engages with said notch.

19. (Previously Presented) A jaw member for use in a metal demolition shears, said jaw member comprising:

a jaw body with a cutting/shearing edge extending therealong; and

an indexable wear plate/piercing tip insert that is attached at a front, nose portion of said jaw body, the wear plate/piercing tip insert comprising a metal insert body having a central region and two ends and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region in the direction of a first side of said insert body so as to define an integral piercing tip that extends at least partially across the width of the front, nose portion of the jaw body,

wherein a second side of said insert body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said second side of said insert body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the jaw body,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said

wear plate/piercing tip insert, normal to said generally planar surface,

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert body on said movable blade member, and

wherein said wear plate/piercing tip insert further comprises a boss that is located between said metal tip portions and that extends laterally from said central region in the direction of the first side of said body and wherein the front, nose portion of said jaw member has a depression extending laterally inwardly from a surface thereof that matches surface contours of said boss, said boss fitting within said depression.

20. (Previously Presented) A jaw member for use in a metal demolition shears, said jaw member comprising:

a jaw body with a cutting/shearing edge extending therealong; and

an indexable wear plate/piercing tip insert that is attached at a front, nose portion of said jaw body, the wear plate/piercing tip insert comprising a metal insert body having a central region and two ends and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to a surface of said central region in the direction of a first side of said insert body so as to define an integral piercing tip that extends at least partially across the width of the front, nose portion of the jaw body,

wherein a second side of said insert body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert,

wherein each said tip portion has a shearing edge on said second side of said insert body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the jaw body,

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface,

wherein a non-worn or less worn portion of said wear surface and non-worn or less worn

shearing and piercing edges can be presented for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert body on said movable blade member, and

wherein the cutting/shearing edge is provided by at least one blade insert member.

21. (Original) The jaw member of claim 20, wherein the blade insert member extends all the way to a forwardmost portion of the front, nose portion of the jaw member and wherein an inner-facing surface of one of the tip portions that is in an operative position engages with an inner-facing surface of the blade insert.

22. (Original) The jaw member of claim 21, wherein forward-facing surfaces of the tip portion in the operative position and the blade insert are co-planar and bottom-facing surfaces of the tip portion in the operative position and the blade insert are co-planar such that a forward portion of the blade insert and a forward, lower portion of the tip portion in the operative position together define a piercing tip portion of the jaw member.

23-39. (Canceled).

40. (Previously Presented) The wear plate/piercing tip insert of claim 4, wherein the at least one boss or dowel comprises a first boss or dowel that is disposed at the pivot axis.

41. (Previously Presented) The wear plate/piercing tip insert of claim 4, wherein the at least one boss or dowel comprises a first boss or dowel and a second boss or dowel, wherein the first boss or dowel and the second boss or dowel are spaced equal distances away from the pivot axis.

42. (Previously Presented) An indexable wear plate/piercing tip insert configured to be attached at a front, nose portion of a correspondingly configured jaw of a metal demolition shears, the wear plate/piercing tip insert comprising:

a metal body having a central region and two longitudinal ends;

a metal tip portion disposed at each of said two longitudinal ends, each said tip portion

protruding laterally with respect to a surface of said central region in the direction of a first side of said body so as to define a piercing tip that extends at least partially across the width of the front, nose portion of the jaw when the wear plate/piercing tip insert is attached to the jaw; and

at least one circular boss that is located between said metal tip portions and that extends laterally from said central region in the direction of the first side of said metal body,

wherein a second side of said body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said second side of said body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said shearing edge of each tip portion being coplanar with said generally planar surface and forming an edge of said generally planar surface, said piercing edge extending at least partially across the width of the front, nose portion of the jaw when the wear plate/piercing tip insert is attached to the jaw; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated by 180° about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface.

43. (Previously Presented) The wear plate/piercing tip insert of claim 42, wherein:
the at least one circular boss comprises a first boss; and
the pivot axis passing centrally through said wear plate/piercing tip insert passes through a center of the first boss.

44. (Previously Presented) The wear plate/piercing tip insert of claim 43, further comprising a bore extending laterally through each of the tip portions.

45. (Previously Presented) The wear plate/piercing tip insert of claim 44, wherein:
each metal tip portion includes a contoured surface that faces the contoured surface of the other metal tip portion; and
the contoured surfaces are bowed toward each other.

46. (Previously Presented) The wear plate/piercing tip insert of claim 45, wherein:
- the central region of the metal body further includes a generally planar surface from which the first boss extends;
- the generally planar surface of the central region is generally parallel to the generally planar surface of the second side of the body;
- the central region includes first and second generally planar edge surfaces that extend from the generally planar surface of the central region to the generally planar surface of the second side of the body;
- a first notch extends into the central region from the first generally planar edge surface; and
- a second notch extends into the central region from the second generally planar edge surface.
47. (Previously Presented) The wear plate/piercing tip insert of claim 46, wherein the generally planar surface of the central region intersects the contoured surfaces of the metal tip portions at right angles.
48. (Previously Presented) The wear plate/piercing tip insert of claim 47, further comprising a bore extending laterally through the first boss.
49. (Previously Presented) The wear plate/piercing tip insert of claim 42, wherein the at least one circular boss comprises a plurality of circular bosses that are arranged symmetrically with respect to the pivot axis passing centrally through said wear plate/piercing tip insert.
50. (Canceled)
51. (Previously Presented) The wear plate/piercing tip insert of claim 1, wherein said two ends of said metal body comprise two longitudinal ends.
52. (Canceled)

53. (Previously Presented) The metal demolition shears of claim 5, wherein said two ends of said metal body comprise two longitudinal ends.

54. (Canceled)

55. (Previously Presented) The jaw member of claim 14, wherein said two ends of said metal body comprise two longitudinal ends.

56. (Previously Presented) The metal demolition shears of claim 5, wherein said pivot axis is parallel to a pivotal axis formed between the movable and fixed jaws.

57. (Previously Presented) The metal demolition shears of claim 5, wherein the generally planar surface is perpendicular to a pivotal axis formed between the movable and fixed jaws.

X. EVIDENCE APPENDIX (37 C.F.R. § 41.37(c)(1)(ix))

Appellants rely on the following evidence pursuant to §§1.130, 1.131, or 1.132 of this title:

A. Sederberg Rule 132 Declaration and included exhibits

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of:
JOHNSON ET AL.

Confirmation Number: 8401

Application No.: 10/697,554

Group Art Unit: 3724

Filed: October 31, 2003

Examiner: NGUYEN, PHONG H.

Title: METAL DEMOLITION SHEARS WITH INDEXABLE, INTEGRATED WEAR PLATE/PIERCING TIP

DECLARATION OF CLAYTON SEDERBERG UNDER 37 CFR 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Clayton Sederberg, hereby attest to the following facts:

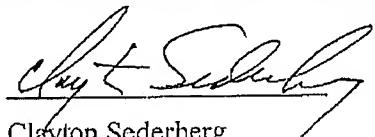
1. I am a co-inventor of both the above-captioned application and the cited prior art U.S. Patent No. 5,992,023 ("the '023 patent").
2. I have been involved as my livelihood in the design and manufacture of mobile shears for over 24 years. I have prepared many patent applications and information pertaining to disclosure of patents in that time. During the creative process that resulted in the '023 patent, no thought was ever given to an indexable feature on the piercing tip/wear plate combination part.
3. Stanley LaBounty ("Stanley") attempted to commercialize a shears with a non-indexable piercing tip of the type shown in FIG. 10 of the '023 patent. The replaceable, non-indexable tip was expensive because of the high machining costs associated with the manufacture of its complex geometry. The machining cost for the non-indexable tip and the receiver (machined area) mirroring the replaceable part in the upper jaw was very expensive. Stanley was unable to successfully commercialize the shears because of the high replacement cost of the tip, which must be replaced approximately 8-10 times a year with a normal duty cycle of a shear. The economics of the non-indexable tip's replacement and added cost to the product increased the price of the shears so much that Stanley abandoned the Sales and Marketing of the replaceable tip feature of the shears in the '023 patent. The wrap around lower blade system of the '023 patent was maintained.

4. The present inventors then invented the indexable piercing tip and associated upper jaw and shears that is disclosed and claimed in the present application. Stanley incorporated this piercing tip into its MSD Saber Series of shears, which embodies each of the pending independent claims of the present application. Photographs of the indexable piercing tip for a Saber series shears are attached hereto as **Exhibit A**. These photographs fairly and accurately portray the indexable piercing tip of the Saber series shears.
5. Due to the novelty of the new design, the indexable piercing tip in the Saber Series Shears automatically cut the cost to the end-user in half due to its indexability. Also due to the reduction in the machining process of the steel billet, it was approximately 33% less expensive to manufacture than the non-indexable tip of the '023 patent. This cost savings is directly attributable to the fact that the "metal tip portion disposed at each of said two ... ends, each said tip portion protruding laterally with respect to a surface of said central region," as recited each pending independent claim, requires less machining than the non-indexable tip of the '023 patent. The indexable tip has provided Stanley with substantial cost savings that simultaneously provide the customer with a piercing tip that has twice the useful life.
6. None of Stanley's pre-2003 shears contained an indexable piercing tip according to the present invention. The commercial success of the indexable piercing tip has caused Stanley to adopt it in nearly every shear design. Indeed, since 2005, at least 96% of the shears that Stanley has sold have contained an indexable piercing tip as claimed in the present application.
7. Stanley has sold world-wide over 1100 of the Saber series shears. In view of the high selling price of each such heavy-duty shear, the sale of 1100 shears is considered to be extremely commercially successful in the industry. In the North American Market, Stanley has approximately 50% market share of the Excavator Mobile Shears, with its closest competitor, Genesis, having approximately 40% market share, while the other 10% is split up among companies such as Caterpillar, Allied-Gator, Iron Axe, and BTI. The novelty and benefits of Stanley's indexable Saber piercing tip of the new design of Indexable tip was a first in the industry. Its Success maintained our status as the première shear supplier in North America.
8. The Saber serics shears have been commercially successful because the ability to index the piercing tip enables customers to get twice as much use out of this wearable, replaceable component.

9. Genesis copied Stanley's Saber piercing tip and began selling the copied replacement indexable piercing tip. Photographs of Genesis' copied indexable piercing tip is enclosed in **Exhibit B**. These photographs fairly and accurately portray Genesis' indexable piercing tip.
10. When Stanley disclosed the present patent application to Genesis, Genesis agreed to halt its manufacture and sale of the copied indexable piercing tips. *See Exhibit C*, 2/28/06 letter from Stanley's counsel to Genesis (disclosing the present application and demanding that Genesis stop selling indexable piercing tips covered by the claims of the present application); **Exhibit D**, 3/10/06 letter from Genesis' counsel to Stanley's counsel ("Genesis has decided to stop making and selling a rotatable indexable shear tip for use with Stanley LaBounty's MSD Saber shears.").
11. The European Patent Office allowed and issued the European counterpart to the present application, i.e., European Patent No. 1,682,299 B1 ("the EP '299 patent") (copy enclosed as **Exhibit E**).
12. In 2005, an Italian company, Trevi Benne, copied the shears and indexable piercing tip that are disclosed and claimed in the present application and began selling these copied shears. Photographs of Trevi Benne's copied shears with their copied indexable piercing tips are enclosed in **Exhibit F**. These photographs fairly and accurately portray Trevi Benne's shears.
13. When Stanley disclosed the European application and the present U.S. patent application to Trevi Benne, Trevi Benne agreed to halt its manufacture and sale of shears that utilize the copied indexable piercing tip. *See Exhibit G*, 6/13/06 letter from Stanley's counsel to Trevi Benne (disclosing the present application and counterpart European application to Trevi Benne stop); **Exhibit H**, 8/9/06 letter from Trevi Benne's counsel to Stanley's counsel ("Trevi Benne is ready to eliminate the reversible plates of CS series shears replacing them by irreversible plates..."). Thereafter, Trevi Benne removed the indexable piercing tip feature from its shears.

I hereby acknowledge that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. § 1001) and may jeopardize the validity of the present application or any patent issuing thereon. All statements made of my own knowledge are true and all statements made on information and beliefs are believed to be true.

By:

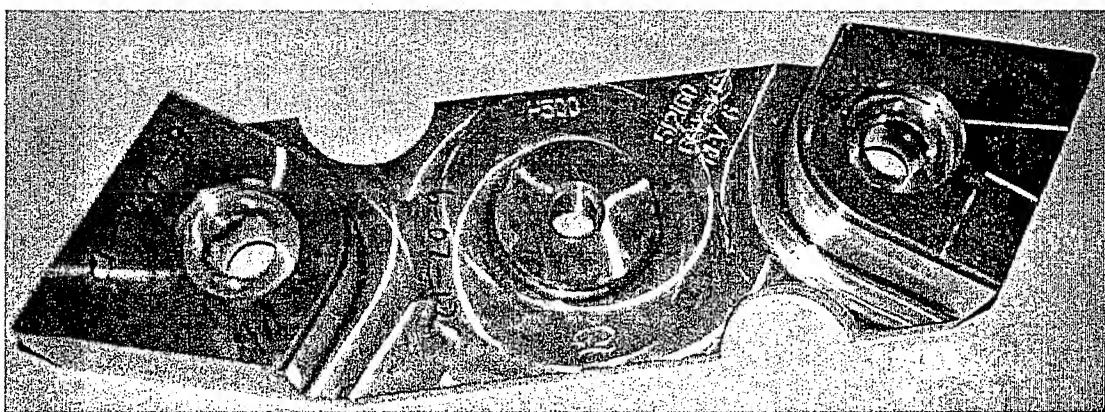
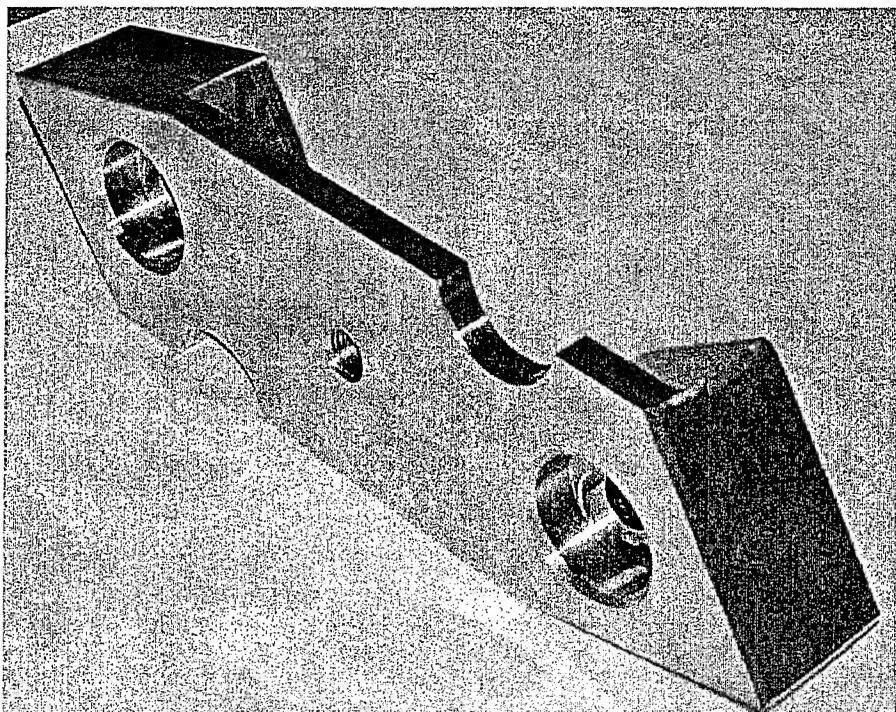
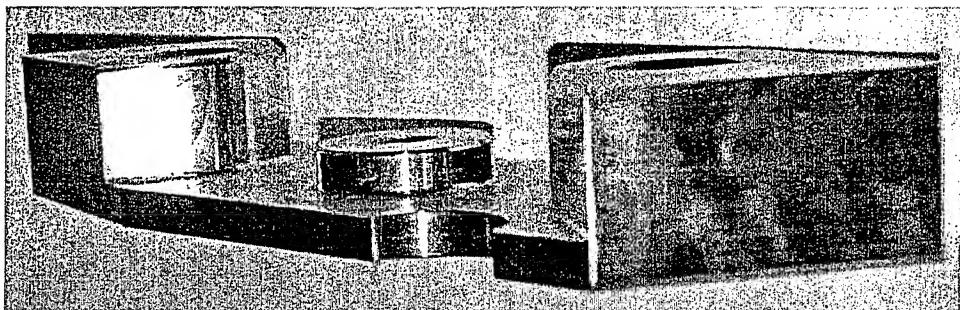


Clayton Sederberg

Date: 2 May 2008

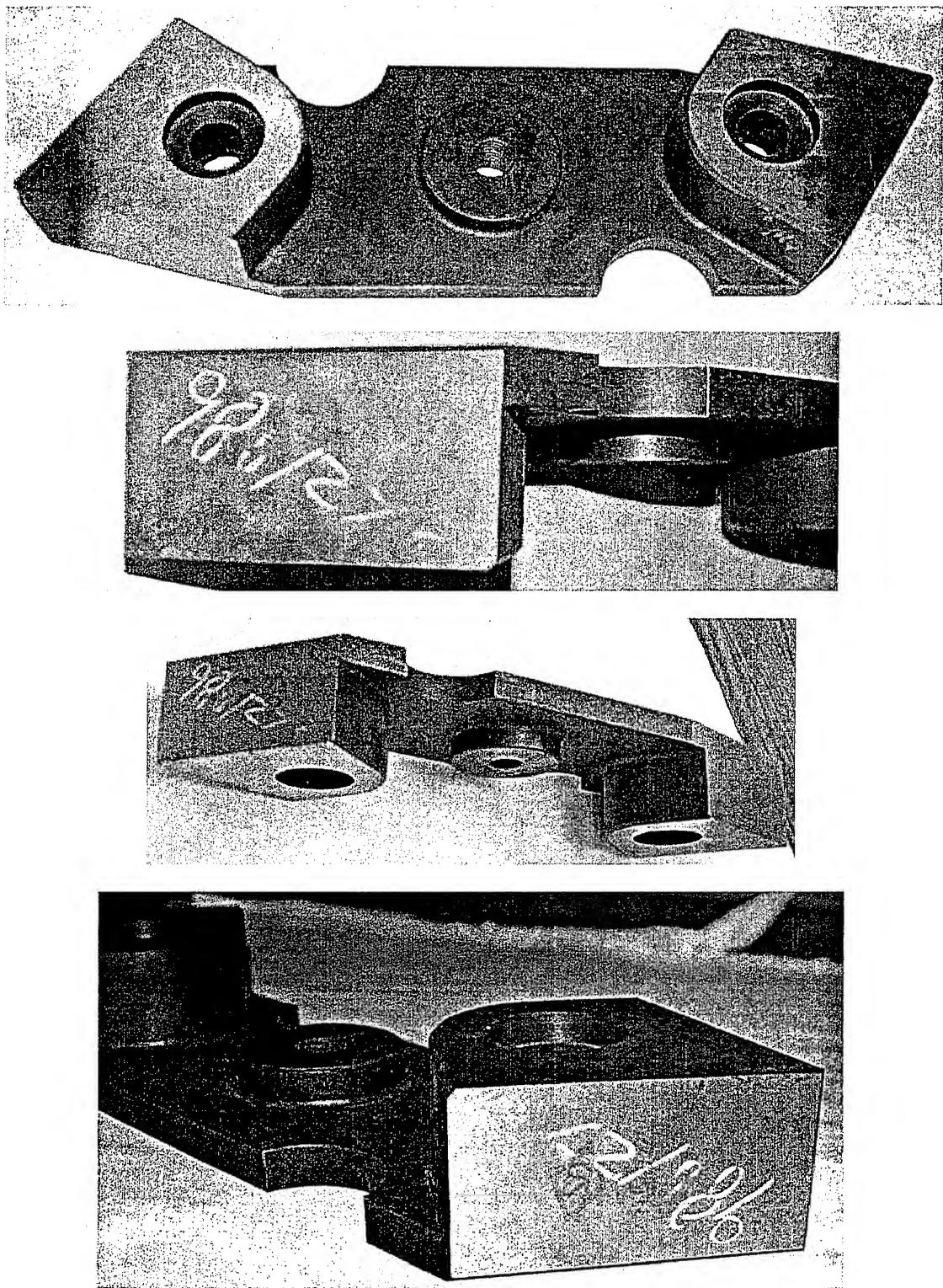
Attachments: Ex. A: Photographs of a Stanley Saber Tip
Ex. B: Photographs of Genesis' copied tip
Ex. C: 2/28/06 letter from Stanley's counsel to Genesis
Ex. D: 3/10/06 letter from Gencsis' counsel to Stanley's counsel
Ex. E: European Patent No. 1,682,299 B1
Ex. F: Photographs of Trevi Benne's copied shears and indexable tip
Ex. G: 6/13/06 letter from Stanley's counsel to Trevi Benne
Ex. H: 8/9/06 letter from Trevi Benne's counsel to Stanley's counsel

Exhibit A



Stanley Indexable Saber Tip

Exhibit B



Genesis Indexable Piercing Tip

Exhibit C

Pillsbury
Winthrop
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McLean, VA 22102-4859

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February 28, 2006

Jack S. Barufka
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jack.barufka@pillsburylaw.com

VIA FACSIMILE [(715)395-5255] & UPS

Rob Schlichting, Manager of Blade Division
Genesis Equipment & Manufacturing, Inc.
1000 Genesis Drive
Superior, WI 54880

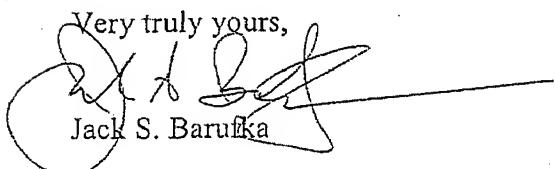
Re: Genesis' Infringement of U.S. Patent Application Serial No. 10/697,554

Dear Mr. Schlichting:

Our firm represents The Stanley Works ("Stanley"), owner of U.S. Patent Application Serial No. 10/697,554 for a Metal Demolition Shears With Indexable, Integrated Wear Plate/Piercing Tip ("the '554 application"). The '554 application published as U.S. Patent Application Publication No. 2005/0091852 A1 (copy enclosed). Under 35 U.S.C. § 154(d), Stanley hereby gives actual notice of the '554 application.

It has recently come to Stanley's attention that Paladin Brands LLC, Genesis, Superior Attachments Inc., and/or the subdivision, Blades by Genesis, are selling replacement blade tips for Stanley LaBounty's MSD Saber Series. These replacement blade tips are clearly covered by one or more of the published claims of the '554 application. Stanley believes that several, if not all of these published claims will be granted in their published form and that Genesis will be subject to pre-grant damages as a result of its infringement. Therefore, Stanley demands that Genesis immediately cease and desist the U.S. manufacture, use, sale, importation, and/or offer for sale of such replacement tips.

We request a reply to this demand within ten (10) days of this letter.

Very truly yours,

Jack S. Barufka

Enclosure: U.S. Patent Application Publication No. 2005/0091852 A1 (via UPS)

February 28, 2006

Page 2

Cc: Bill Van Sant, Chairman
Paladin Brands, LLC
5825 Council Street N.E.
Cedar Rapids, IA 52402
Fax: (319) 378-3589.

John Gelp, President, CEO and CFO
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5825 Council Street N.E.
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Exhibit D

BRIGGS AND MORGAN

PROFESSIONAL ASSOCIATION

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TELEPHONE (612) 977-8400
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WRITER'S DIRECT DIAL

(612) 977-8480

WRITER'S E-MAIL

ghelget@briggs.com

March 10, 2006

Jack S. Barufka
Pillsbury, Winthrop, Shaw, Pittman
1650 Tysons Boulevard
McLean, VA 22102-4859

**Re: Stanley Works Patent Infringement
U.S. Patent Application Publication No. 2005/0091852**

Dear Mr. Barufka:

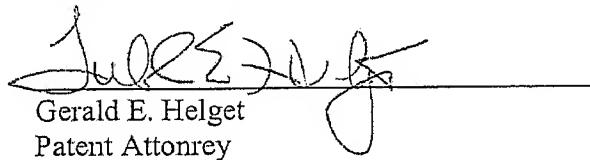
This firm represents Genesis Attachments, LLC in their intellectual property law matters and are responding to your February 28, 2006 letter.

We have reviewed the Stanley Patent Application Publication No. 2005/0091852, its claims, prosecution and cited references. It clearly remains to be seen as to whether the published claims will be allowed to issue entitling Stanley to any pre-grant damages.

Without waiving any rights now or in the future, Genesis has decided to stop making and selling a rotatable indexable shear tip for use with Stanley LaBounty's MSD Saber shears.

Very truly yours,

Briggs and Morgan, P.A.


Gerald E. Helget
Patent Attorney

GEH/kmh

Exhibit E



EP 1 682 299 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:
25.04.2007 Bulletin 2007/17

(51) Int.Cl.:
B23D 35/00 (2006.01) *B23D 17/00 (2006.01)*

(21) Application number: 04781758.0

(86) International application number:
PCT/US2004/027140

(22) Date of filing: 20.08.2004

(87) International publication number:
WO 2005/044493 (19.05.2005 Gazette 2005/20)

(54) INDEXABLE INSERT WITH INTEGRATED WEAR PLATE AND PIERCING TIP FOR METAL DEMOLITION SHEARS

WENDBARER EINSATZ MIT INTEGRIERTER VERSCHLEISSPLATTE UND DURCHSTECHSPITZE FÜR METALLABBRUCHSCHERE

ELEMENT D'INSERTION INDEXABLE PRESENTANT UNE PLAQUE D'USURE ET POINTE DE PERCAGE INTEGREES POUR UNE CISAILLE DE DEMOLITION METALLIQUE

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PL PT RO SE SI SK TR

- MAGGIO, Louis
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- SEDERBERG, Clayton
Duluth, MN 55804 (US)

(30) Priority: 31.10.2003 US 697554

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(43) Date of publication of application:
26.07.2006 Bulletin 2006/30

(56) References cited:
US-A- 5 992 023

(73) Proprietor: THE STANLEY WORKS
New Britain, CT 06053 (US)

(72) Inventors:
• JOHNSON, Karl
Duluth, MN 55803 (US)

EP 1 682 299 B1

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

Description**Field of the Invention**

[0001] The invention relates to metal demolition shears. More particularly, the invention relates to the cutting/piercing elements thereof.

Background of the Invention

[0002] A conventional configuration for a metal demolition shears 900 as known in the prior art is illustrated in FIGURES 1 and 2. The shears 900 are configured to be attached to the boom structure of, for example, excavating or earth-moving excavation equipment such as that made by Caterpillar, Komatsu, Hitachi, Kobelco, etc. The shears 900 include a lower, fixed or stationary jaw 902 and an upper, movable jaw 904. The upper, movable jaw 904 is pivotally mounted by means of pivot structure 906, which includes, for example, a main shaft, tie rod, rotation bearings and thrust bearing, end caps, and fasteners so as to pivot relative to the lower fixed or stationary jaw 902, as illustrated by double-headed arrow 908. Piston member 910 articulates (drives) the upper, movable jaw 904 for such pivoting movement. The stationary jaw 902 is mounted into a stick weldment structure 912 that supports the piston member 910 and the pivoting upper jaw 904, and the stick weldment structure 912 is mated to the boom of the machinery by means of a fixed mounting bracket 913 (FIGURE 1) or a rotational mounting adapter 914 (shown in FIGURE 2) and rotational drive system (not shown in FIGURE 1).

[0003] The lower, fixed jaw 902 includes a fixed blade member 916 and a guide member 920. The guide blade member 920 is laterally spaced from the fixed blade member 916 and extends generally parallel to the fixed blade member 916. A cross-member 922 extends between and is connected to the endmost portions of the fixed blade member 916 and the guide member 920. Together, the fixed blade member 916, guide member 920, and cross-member 922 define a slot 924 into which the upper, movable jaw 904 moves during operation of the shears 900.

[0004] The shears 900 includes a number of hardened metal inserts that provide various cutting, piercing, or load-supporting edges and surfaces. In particular, the lower, fixed jaw 902 has a pair of hardened steel blade insert members 926, and the upper, movable jaw 904 has a pair of hardened steel insert members 928. The blade insert members 926 and 928 fit within correspondingly configured recesses or seating surfaces formed in the lower and upper jaws 902 and 904, respectively, and are secured therein, e.g., by bolts. As the shears 900 is operated and the upper, movable jaw 904 is pivoted closed relative to the lower, fixed jaw 902, the blade insert members 928 in the upper, movable jaw 904 move past the blade insert members 926 in the lower, fixed jaw 902, and the cutting edges 930 and 932 of the lower and upper

blade insert members 926, 928, respectively, co-act to shear or cut a workpiece such as I-beams, pipes, scrap sheet metal, etc. held between the jaws of the shears. As disclosed, for example, in U.S. Patent No. 5,992,023,

5 the blade insert members may be indexable, meaning that they can be reoriented and repositioned to present new or fresh cutting edges as the cutting edges 930, 932 become worn.

[0005] As the upper, movable jaw 904 pivots downward to shear a workpiece between the steel blade insert members 926 and 928, the workpiece tends to force the upper, movable jaw 904 laterally away from the fixed blade member 916 of the lower, fixed jaw 902. The guide member 920 limits or constrains such lateral deflection

10 of the upper, movable jaw 904. As a result, as the movable jaw 904 pivots downward into the slot 924, the lateral surface 934 of the nose portion 936 of the movable jaw 904 bears against inner-facing surface 938 of the guide member 920. Therefore, a hardened steel wear plate 940 is customarily secured to the lateral surface 934 of the nose portion 936, and a hardened steel wear insert 942 is secured to the inner-facing surface 938 of the guide member 920.

[0006] In addition to the blade insert members 926, 25 928, wear plate 940, and wear insert 942, a shears 900 conventionally has a hardened steel piercing tip 944 that is secured, e.g., by welding to a lower surface of the nose portion 936 at a forwardmost portion thereof. A hardened steel cross blade insert 946 is secured within a correspondingly shaped recess in the cross member 922 and cooperates with and/or provides a cutting surface against which the piercing tip 944 engages when the shears 900 is being used to pierce holes through larger, generally flattened pieces of scrap metal.

[0007] Customarily, the various cutting, supporting, piercing, and/or wear elements described above (the blade insert members 926, 928, the wear plate 940, the wear insert 942, the piercing tip 944, and the cross blade insert 946) are provided as individual, separate components.

[0008] According to a first aspect of the present invention, there is provided an indexable wear plate/piercing tip insert configured to be attached at a front, nose portion of a correspondingly configured movable jaw of a metal demolition shears, the wear plate/piercing tip insert comprising a metal body having a central region and two ends, and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to said central region in the direction of a first side of said body so as to define a piercing tip that extends at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw; wherein a second side of said body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert; wherein each said tip portion has a shearing edge on said second side of said body and a piercing edge disposed at an angle relative to and inter-

secting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw; and wherein the geometric configuration of said wear plate/piercing tip insert, is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface; whereby a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said wear plate/piercing tip insert on the movable jaw.

[0009] In embodiments the present invention features an indexable wear plate/piercing tip insert that is configured to be removably and repositionably attached to the front, nose portion of the upper, movable jaw of a metal demolition shears. The insert functions as both a wear plate and a piercing tip and is indexable in that a non-worn or less worn portion of the wear surface of the wear plate portion of the insert and non-worn shearing and piercing edges of the piercing tip portion of the insert can be presented simultaneously simply by rotating the insert 180° and reattaching it to the nose portion of the upper, movable jaw of a metal demolition shears. This configuration simplifies maintenance of the shears and reduces the number of different parts that need to be kept in inventory, thus reducing operational costs. Additionally, because the wear plate/piercing tip insert is configured to be removable and repositionable, it is not welded onto the upperjaw or weldment. Therefore, an additional welding step is eliminated as a result of the bolt-on configuration of the wear plate/piercing tip of the invention.

[0010] In embodiments, the invention features an indexable wear plate/piercing tip insert that is configured to be attached at a front, nose portion of a correspondingly configured movable jaw of a metal demolition shears. The wear plate/piercing tip insert has a body portion, a surface of which provides a wear surface, and at least a pair of laterally extending or protruding tip portions that provide multiple piercing tips for the movable jaw. The geometric configuration of the wear plate/piercing tip insert is essentially the same in a first position and a second position, the second position being a position in which the wear plate/piercing tip insert is rotated about a pivot axis passing centrally through the wear plate/piercing tip insert. As a result, non-worn or less worn portion of the wear surface of the insert and non-worn or less worn shearing and piercing edges of the insert can be presented simultaneously for the metal demolition shear by rotating the wear plate/piercing tip insert about its pivot axis, from the first position to the second position, and reseating the wear plate/piercing tip insert on the movable jaw.

[0011] According to one embodiment of the wearplate/piercing tip insert, the second position is a position in which the wearplate/piercing tip insert is rotated by 180° about its pivot axis. Additionally, the wear plate/piercing

- 5 tip insert may have shearing edges on each tip portion that are coplanar with and that form an edge of the wear surface. The wear plate/piercing tip may also have at least one support boss that is located between the metal tip portions and that extends laterally from a central region of the wear plate/piercing tip to provide bearing support to help prevent the wear plate/piercing tip insert from being sheared off of the movable jaw during cutting and retracting operation of the shears on which the wear plate/piercing insert is mounted.
- 10 [0012] According to a second aspect, the invention features a metal demolition shears having an indexable wear plate/piercing tip insert, generally as per the first aspect of the invention. The shears has a fixed jaw and a movable jaw, with the indexable wear plate/piercing tip insert being seated on the movable jaw at a forward, nose portion of the movable jaw.
- 15 [0013] According to an embodiment of the invention, the shears has a fixed jaw including a fixed blade member with a first cutting/shearing edge extending along it and a guide member spaced from and extending in generally parallel relation to the fixed blade member. The shears also has a movable jaw that pivots relative to the fixed jaw, with a second cutting/shearing edge extending along the movable jaw. An indexable wear plate/piercing tip insert is attached at a front, nose portion of the movable jaw.
- 20 [0014] The front, nose portion of the movable jaw has a pocket or cavity into which the tip portions of the wear plate/piercing tip insert each fit, with one of the tip portions being fitted in the pocket or cavity when positioned in a non-operative position. The pocket or cavity has contours that match surface contours of the tip portions. Additionally, the front, nose portion of the movable jaw has a notch formed in an underside thereof, with the notch having surface contours that match surface contours of each of the tip portions. The tip portion that is positioned in an operative position engages with the notch.
- 25 [0015] The second cutting/shearing edge may be provided by at least one blade insert member, with the blade insert member extending all the way to a forwardmost portion of the front, nose portion of the movable jaw. An inner-facing surface of one of the tip portions that is in an operative position may engage with an inner-facing surface of the blade insert, such that a forward portion of the blade insert and a forward, lower portion of the tip portion in the operative position together define a piercing tip portion of the movable jaw.
- 30 [0016] According to a third aspect, the invention features a jaw member for use in a metal demolition shears (for example, but not necessarily, the upper, movable jaw member). The jaw member has an indexable wear plate/piercing tip insert, generally as per the first aspect of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] These and other aspects and features of the invention will be described in greater detail below in connection with the drawings, in which:

[0018] FIGURES 1 and 2 are perspective views, from different angles, of a metal demolition shears according to the prior art;

[0019] FIGURES 3 and 4 are perspective views, from different angles, showing a metal demolition shears according to the invention;

[0020] FIGURE 5 is an exploded, perspective view showing the upper, movable jaw of a metal demolition shears according to the invention, as illustrated in FIGURES 3 and 4;

[0021] FIGURE 6 is a perspective view showing a portion of the upper, movable jaw illustrated in FIGURES 3-5;

[0022] FIGURE 7 is a perspective view illustrating an indexable wear plate/piercing tip according to the invention;

[0023] FIGURES 8a and 8b are perspective views from opposite sides of an alternate embodiment of an indexable wear plate/piercing tip according to the invention;

[0024] FIGURE 9 is a perspective view showing another alternate embodiment of an indexable wear plate/piercing tip according to the invention;

[0025] FIGURE 10 is an exploded, perspective view showing an alternate embodiment of the upper, movable jaw of a metal demolition shears according to the invention, employing the indexable wear plate/piercing tip illustrated in FIGURE 9;

[0026] FIGURES 11 and 12 are perspective views from opposite sides showing the upper, movable jaw of a metal demolition shears illustrated in FIGURE 10, as assembled; and

[0027] FIGURE 13 is an exploded, perspective view showing another alternate embodiment of the upper, movable jaw of a metal demolition shears according to the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0028] A shears 100 according to the invention is illustrated in FIGURES 3 and 4, with an indexable wear plate/piercing tip insert 150 according to the invention being illustrated in greater detail in FIGURES 5-7. Like the prior art shears 900 illustrated in FIGURES 1 and 2, the shears 100 includes a lower, fixed jaw 102 and an upper, movable jaw 104 that is mounted by pivot structure 106 so as to be able to pivot relative to the lower, fixed jaw 102. A piston member 110 is pivotally attached to a piston connection point 111 and extends and retracts to drive the upper, movable jaw 104 to open and close the shears 100. The lower and upper jaws 102, 104, pivot structure 106, and piston member 110 are all mounted within or supported by a stick weldment structure 112, which is mounted by means of a rotational fitting or adapter (not

shown) to the boom or dipstick structure of an excavator or other heavy-duty equipment.

[0029] The lower, fixed jaw 102 includes a fixed blade member 116 and a guide member 120 that is laterally spaced from and extends generally parallel to the fixed blade member 116. A cross member 122 is attached (e.g., welded) to the endmost portions of the blade member 116 and guide member 120, with a hardened steel cross member insert 146 secured within a correspondingly shaped recess on the inner-facing side of the cross member 122. Together, the fixed blade member 116, guide member 120, and cross member 122 form or define a slot 124 into which the upper, movable jaw 104 moves as it pivots to close the shears 100 during shearing operation of the shears 100.

[0030] A pair of indexable hardened steel blade insert members 126 are removably attached (e.g., by bolts) to the fixed blade member 116, and a pair of indexable hardened steel blade insert members 128 are removably attached (e.g., by bolts) to the upper, movable jaw 104. The blade insert members 126, 128 provide cutting edges 130, 132, respectively. To this extent, the construction of the shears 100 according to the invention is generally the same as that of the shears 900 explained above as representative of the prior art.

[0031] As further illustrated in FIGURES 3 and 4, and as illustrated in greater detail in FIGURES 5-7, an Integral, Indexable, wear plate/piercing tip insert 150 is removably secured to the forward, nose portion 136 of the upper, movable jaw 104 by means, for example, of cap screws or plow bolts 152. The wear plate/piercing tip insert 150 is preferably made from hardened, wear-resistant tool steel and has a central region 154 and ends 156. A tip portion 158 protrudes laterally from each end 156 of the wear plate/piercing tip insert 150, with the tip portions 158 both protruding toward the same side 160 of the wear plate/piercing tip insert 150. The opposite side 162 of the wear plate/piercing tip insert 150, on the other hand, has a generally planar surface 164. As described in greater detail below, the planar surface 164 provides a wear surface for the wear plate/piercing tip insert 150.

[0032] In addition to the tip portions 158, a central, circular boss 166 (or similar dowel-type insert) also extends laterally from the central region of the wear plate/piercing tip insert 150, toward the side 160 of the wear plate/piercing tip insert 150. The boss 166 (or dowel) seats in a corresponding bore or depression 182 (described further below) in the movable, upper jaw 104 to provide support and bearing resistance against the forces to which the wear plate/piercing tip 150 is subjected during both cutting and retraction movement of the upper, movable jaw 104, as well as to transfer those loads to the main, structural body of the upper jaw 104. Depending on the size of the loads to which the wear plate/piercing tip will be subjected, it may be desirable to provide two or more such bosses 166 on a wear plate/piercing tip insert 150, as illustrated in FIGURES 8a and 8b.

[0033] The wear plate/piercing tip insert 150 is "pivot-

ally symmetric." In other words, the geometric configuration of the wear plate/piercing tip insert 150 is essentially the same when the wear plate/piercing tip insert 150 is rotated by 180° around pivot axis 168. Pivot axis 168 passes centrally through the wear plate/piercing tip insert 150, e.g., through the center of the circular boss 166 when just one is provided or with the bosses arranged symmetrically with respect to the pivot axis 168 when multiple bosses are provided, and pivot axis 168 extends normal to the planar surface 164. In particular, the profile of the wear plate/piercing tip insert 150 as seen looking along the pivot axis 168 in the direction of the arrow in FIGURE 7, including the contours of and the extent to which the tip portions 158 protrude toward the side 160, will be essentially the same when the wear plate/piercing tip insert 150 is rotated by 180° about the pivot axis 168. By "essentially the same," it is meant that deviations such as small bumps, ridges, cavities, differences in thickness, etc., that may be present but that do not prevent the wear plate/piercing tip insert 150 from being secured to the nose portion 136 in multiple orientations are deemed not to destroy the "pivotal symmetry" of the wear plate/piercing tip insert 150.

[0034] Like the boss 166 (or bosses or dowel(s)), the tip portions 158 provide bearing support for the wear plate/piercing tip insert 150 during cutting and retraction operation of the movable jaw 104. Therefore, the contours of the tip portions 158 are preferably configured to optimize load transfer into the structural sections of the upper, movable jaw 104.

[0035] As illustrated in FIGURE 5, the nose portion 136 of the upper, movable jaw 104 has a surface 170 that is located on the side of the movable jaw 104 opposite to the side on which the blade insert members 128 are mounted, and that surface 170 is recessed slightly relative to surface 172 of the upper, movable jaw 104. The surface 170 is recessed by an amount that is the same as the thickness t_c (FIGURE 7) of the central region 154 of the wear plate/piercing tip insert 150.

[0036] The nose portion 136 also has a pocket or cavity 174 formed near an upper edge 176 thereof. The pocket or cavity 174 extends laterally, from the surface 170 toward the opposite side of the upper, movable jaw 104 to which the blade insert members 128 are attached, by an amount that is equal to the thickness t_w (FIGURE 7) of the tip portions 158 of the wear plate/piercing tip insert 150 (the thickness t_w being equal to the thickness t_c of the central region of the wear plate/piercing tip insert 150 and the amount by which the tip portions 158 protrude laterally relative to the central region 154). The contours of the pocket or cavity 174 match the contours of the surfaces 175 of the laterally extending tip portions 158.

[0037] In addition to the pocket or cavity 174, a cut-out or notch 178 is formed in an underside 180 of the nose portion 136 of the upper, movable jaw 104. The cut-out or notch 178 may extend laterally across the entire width of the nose portion 136. As is the case for the pocket or cavity 174, the contours of the cut-out or notch 178 match

the contours of the surfaces 175 of the tip portions 158 of the wear plate/piercing tip insert 150, although only to the extent the surfaces 175 of the tip portions 158 will engage the surfaces of the notch 178 when the wear plate/piercing tip insert 150 is mounted to the nose portion 136 of the movable jaw member 104. In other words, the contours of the notch 178 will be the same as just a portion of the contours of the pocket or cavity 174.

[0038] A circular depression or bore 182 extends laterally from the surface 170 toward the opposite side of the nose portions 136, to which the blade insert members 128 are attached. The contours of the circular depression 182 match the contours of the central, circular boss 166, and the circular depression 182 extends laterally by an amount that is equal to the height of the central, circular boss 166, i.e., by an amount that is the same as the distance to which the central, circular boss 166 protrudes relative to the central region 154 of the wear plate/piercing tip insert 150. With this configuration, the wear plate/piercing tip insert 150 can be seated securely onto the nose portion 136, with the surface 155 of the central region 154 seating firmly against seating surface 170, one of the tip portions 158 fitting firmly and closely within pocket or cavity 174, a portion of the surface 175 of the other tip portion 158 engaging and mating with the surface of cut-out or notch 178, and the central, circular boss 166 extending into and mating with the circular depression 182. Of course, if multiple bosses (or dowels) are provided, a corresponding number of depressions or bores 182 will also be provided, in a corresponding configuration or arrangement.

[0039] The tip portions 158 of the wear plate/piercing tip insert 150 each have a pair of side surfaces 184 and 186 that are exposed when a given tip portion 158 is in

the lower, operative position. The front-facing side surface 184 of the tip portion 158 that is in the lower, operative position is identified in FIGURE 6, and the bottom-facing side surface 186 (bottom-facing when the tip portion is in the operative position) is identified in FIGURE 6 for the tip portion 158 that is in the upper, non-operative position. The front-facing side surfaces and bottom-facing side surfaces intersect each other along piercing edges 188. Additionally, the bottom-facing side surfaces 186 intersect the planar surface 164 along shearing edges 190.

[0040] In the illustrated embodiment of a shears 100 according to the invention, one of the hardened steel blade insert members 128 extends forwardly all the way to the front of the nose portion 136, as illustrated in FIGURE 6. In that case, the forward-facing side surfaces 184 are preferably configured to be co-planar with the forward-facing end surfaces 129 of the blade insert members 128 when both the wear plate/piercing tip insert 150 and blade insert members 128 are installed in their respective operative positions on the upper, movable jaw 104. Furthermore, the piercing edges 188 are preferably co-linear with the bottom-facing piercing edge 131 of the forwardmost blade insert member 128 when the wear

plate/piercing tip insert 150 and blade insert members 128 are installed in their operative positions on the nose portion 136 of the upper, movable jaw 104.

[0041] Similarly, the bottom-facing side surfaces 186 are preferably configured such that the bottom-facing side surface 186 of the tip portion 158 that is in the lower, operative position is co-planar with a bottom-facing side surface (not visible or labeled) of the forwardmost blade insert member 128. Thus, in this configuration, the tip portion 158 that is in the lower, operative position and the forward portion of the forwardmost blade insert member 128 work together or are combined to form the effective piercing tip region PT, as identified in FIGURES 3 and 4.

[0042] Alternatively, as illustrated in FIGURES 9-12, if the blade insert member 128 does not extend all the way forward to the forwardmost extent of the nose portion 136" of the movable jaw 104", it is preferable for the tip portions 158" of the wear plate/piercing tip inserts 150" to extend laterally, i.e., to have thicknesses t_w , sufficient to extend all the way across the width of the nose portion 136" of the upper, movable jaw 104". Although the entirety of the tip portions 158" may extend laterally all the way across the width of the nose portion 136", it is also possible to have just an extension portion 158b" that protrudes from the main portion 158a" of the tip portion 158" that extends all the way across the width of the nose portion 136", as illustrated in FIGURES 9-12.

[0043] Like the prior art shears 900, the shears 100 according to the invention has an inner-facing surface 138 on the guide member 120 and a hardened steel wear insert 142.

[0044] During operation of the shears 100, a workpiece held between the lower, fixed jaw 102 and the upper, movable jaw 104 is cut or sheared by means of the steel blade insert members 126 and 128 as the upper, movable jaw is driven to pivot closed relative to the lower, fixed jaw 102. As the upper, movable jaw closes on the workpiece being sheared, the movable jaw is forced laterally slightly, away from the fixed blade member 116 and toward the guide member 120. As a result, the planar surface 164 of the wear plate/piercing tip insert 150 will bear against and slide along the wear insert 142.

[0045] The metal demolition shears 100 can also be used to cut and demolish generally flattened scrap metal. In that case, if the sheet of scrap metal rests on the lower, fixed jaw 102, the piercing tip portion PT of the nose portion 136 will make initial contact with the scrap metal as the shears are being operated and will pierce its way through the scrap metal workpiece. In that situation, the piercing edge 188 of the tip portion 158 that is in the operative position, along with the bottom-facing piercing edge 131, will operate to help the tip portion of the nose portion 136 pierce its way through the scrap metal workpiece. As the upper, movable jaw 104 continues to close relative to the lower, fixed jaw 102 and the tip portion TP pierces its way through the workpiece, the piercing edge 188, along with the bottom-facing piercing edge 131, will

co-act with the cross member insert 146 to cut the metal workpiece in piercing fashion. Additionally, the shearing edge 190 of the tip portion 158 that is in the operative position will cooperate or co-act with the upper, inner-facing edge of the wear insert 142 to cut the flattened metal workpiece, in shearing fashion.

[0046] As a result of continued operation of the shears 100, the various operative edges and surfaces of the wear plate/piercing tip insert 150, namely, the piercing edge 188, the shearing edge 190, and the portion of the planar surface 164 that is disposed in the region of the tip portion 158 that is in the lower, operative position, will become dull, chipped, worn, or otherwise degraded in their functioning capacities. When the various edges and surfaces have become overly worn, a fresh set of piercing and shearing edges and a fresh wear surface portion of the planar surface 164 can be presented simply by removing the cap screws or plow bolts 152, rotating the wear plate/piercing tip insert 150 by 180° around its pivot axis 168, and reinstalling and securing it back to the nose portion 136 of the upper, movable jaw 104 with the cap screws or plow bolts 152.

[0047] In yet another embodiment 200 of a metal demolition shears according to the invention, as illustrated in FIGURE 13, two wear plate/shearing tip inserts 250a and 250b may be used, with one located on either side of the nose portion 236 of the movable upper jaw 204. In addition to each wear plate/shearing tip insert 250a and 250b being longitudinally symmetric, as defined above, the wear plate/shearing tip inserts 250a and 250b are "mirror image symmetric" with respect to each other. In other words, whereas the one wear plate/shearing tip insert 250a angles up and to the right from one end to the other, as viewed straight on when it is attached to the nose portion 236 of the upper, movable jaw 204, the other wear plate/shearing tip insert 250b angles up and to the left from the one end to the other, as viewed straight on when it is attached to the nose portion 236 of the upper, movable jaw 204.

[0048] The nose portion 236 is, itself, configured to receive and seat the wear plate/piercing tip inserts 250a and 250b appropriately, with a "pocket" or "cavity" 274 that extends all the way across the width of the center "keel" portion 237 of the nose portion 236 and a notch or cut-out 278 that also extends all the way across the keel portion 237. (The forward blade insert 228 does not extend all the way forward.) In this embodiment, the two wear plate/piercing tip inserts 250a and 250b are bolted together using cap screws or bolts (not shown) passing through the bosses 266 (which seat within depressions 282 on either side of the keel 237) and protruding tip portions 258. This effectively sandwiches the keel portion between the wear plate/piercing tip inserts.

[0049] As a result, of this configuration, the tip portions 258 provide the entire piercing tip function. Additionally, excellent wear protection is provided on both sides of the nose portion, and the configuration permits indexability of the wear plate/piercing tip inserts on each side of the

jaw 204. Finally, although not illustrated, the configuration of the wear plate/piercing tip inserts 250a and 250b may also be such as to permit them to be interchanged from one side of the nose portion 236 to the other.

[0050] The embodiments of the invention described herein are illustrative, and the invention is not deemed to be limited to those specific embodiments. Modifications to the described invention will, of course, occur to those having skill in the art, and such modifications to the disclosed embodiment that are within the scope of the following claims.

Claims

1. A wear plate/piercing tip insert (150, 150', 150", 250a, 250b) configured to be attached at a front, nose portion (136, 136", 236) of a correspondingly configured movable jaw (104, 104", 204) of a metal demolition shears (100, 200), the wear plate/piercing tip insert (150, 150', 150", 250a, 250b) comprising:

a metal body (150, 150', 150", 250a, 250b) having a central region (154) and two ends (156), and

a metal tip portion (158, 158", 258) disposed at one of said two ends (156), said tip portion (158, 158", 258) protruding laterally with respect to said central region (154) in the direction of a first side (160) of said body (150, 150', 150", 250a, 250b) so as to define a piercing tip that extends at least partially across the width of the front, nose portion (136, 136", 236) of the movable jaw (104, 104", 204) when the wear plate/piercing tip insert (150, 150', 150", 250a, 250b) is attached to the movable jaw (104, 104", 204);

wherein a second side (162) of said body (150, 150', 150", 250a, 250b) that is opposite to said first side (160) has a generally planar surface (164) to define a wear surface of said wear plate/piercing tip insert (150, 150', 150", 250a, 250b);

wherein said tip portion (158, 158", 258) has a shearing edge (190) on said second side (162) of said body (150, 150', 150", 250a, 250b) and a piercing edge (188) disposed at an angle relative to and intersecting with said shearing edge (190), said piercing edge (188) extending at least partially across the width of the front, nose portion (136, 136", 236) of the movable jaw (104, 104", 204) when the wear plate/piercing tip insert (150, 150', 150", 250a, 250b) is attached to the movable jaw (104, 104", 204);

characterised in that said metal tip portion is disposed at each of said two ends (156) and in that the insert is indexable,

wherein the geometric configuration of said wear plate/piercing tip insert (150, 150', 150", 250a, 250b) is essentially the same in a first position and a second

position, said second position being a position in which said wear plate/piercing tip insert (150, 150', 150", 250a, 250b) is rotated about a pivot axis (168) passing centrally through said wear plate/piercing tip insert (150, 150', 150", 250a, 250b), normal to said generally planar surface (164); whereby a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges (190, 188) can be presented simultaneously for the metal demolition shear (100, 200) by rotating said wear plate/piercing tip insert (150, 150', 150", 250a, 250b) about said pivot axis (168) from said first position to said second position and reseating said wear plate/piercing tip insert (150, 150', 150", 250a, 250b) on the movable jaw (104, 104", 204).

2. The wear plate/piercing tip insert (150, 150', 150", 250a, 250b) of claim 1, wherein said second position is a position in which the wear plate/piercing tip insert (150, 150', 150", 250a, 250b) is rotated by 180° about said pivot axis.
3. The wear plate/piercing tip insert (150, 150', 150", 250a, 250b) of claim 1, wherein the shearing edge (190) of each tip portion (158, 158", 258) is coplanar with and forms an edge of said generally planar surface (164).
4. The wear plate/piercing tip insert (150, 150', 150", 250a, 250b) of claim 1, further comprising at least one boss or dowel (166, 166', 266) that is located between said metal tip portions (158, 158", 258) and that extends laterally from said central region (154) in the direction of the first side (160) of said body (150, 150', 150", 250a, 250b).

5. A metal demolition shears (100, 200) in combination with the indexable wear plate/piercing tip insert (150, 150', 150", 250a, 250b) of claim 1, the shears (100, 200) comprising:

a fixed jaw (102) having a fixed blade member (116) with a first cutting/shearing edge (130) extending therealong and a guide member (120) spaced from and extending in generally parallel relation to said fixed blade member (116); and a movable jaw (104, 104", 204) with a second cutting/shearing edge (132) extending therealong and that pivots relative to said fixed jaw (102),

wherein the indexable wear plate/piercing tip insert (150, 150', 150", 250a, 250b) is attached at a front, nose portion (136, 136", 236) of said movable jaw (104, 104", 204) and extends at least partially across the width of the front, nose portion (136, 136", 236) of the movable jaw (104, 104", 204); and

- wherein said piercing edge (188) extends at least partially across the width of the front, nose portion (136, 136", 236) of the movable jaw (104, 104", 204).
6. The metal demolition shears (100, 200) of claim 5, wherein said second position is a position in which the wear plate/piercing tip insert (150, 150', 150", 250a, 250b) is rotated by 180° about said pivot axis.
7. The metal demolition shears (100, 200) of claim 5, wherein the front, nose portion (136, 136", 236) of the movable jaw (104, 104", 204) has a pocket or cavity (174, 274) extending laterally inwardly from a surface (170) thereof into which the tip portions (158, 158", 258) of the wear plate/piercing tip insert (150, 150', 150", 250a, 250b) each fit, one of the tip portions (158, 158", 258) being fitted in said pocket or cavity (174, 274) when positioned in a non-operative position.
8. The metal demolition shears (100, 200) of claim 7, wherein the pocket or cavity (174, 274) has contours that match surface contours of the tip portions (158, 158", 258).
9. The metal demolition shears (100, 200) of claim 5, wherein the front, nose portion (136, 136", 236) of the movable jaw (104, 104", 204) has a notch (178, 278) formed in an underside thereof, the notch (178, 278) having surface contours that match surface contours of each of the tip portions (158, 158", 258), wherein one of the tip portions (158, 158", 258) that is positioned in an operative position engages with said notch (178, 278).
10. The metal demolition shears (100, 200) of claim 5, wherein said wearplate/piercing tip insert (150, 150', 150", 250a, 250b) further comprises at least one boss or dowel (166, 166', 266) that is located between said metal tip portions (158, 158", 258) and that extends laterally from said central region (154) in the direction of the first side (160) of said body (150, 150', 150", 250a, 250b) and wherein the front, nose portion (136, 136", 236) of the movable jaw (104, 104", 204) has a depression (182, 282) extending laterally inwardly from a surface thereof that matches surface contours of said at least one boss or dowel (166, 166', 266), said at least one boss or dowel (166, 166', 266) fitting within said depression (182, 282).
11. The metal demolition shears (100, 200) of claim 5, wherein the second cutting/shearing edge (132) is provided by at least one blade insert member (128, 128", 228).
12. The metal demolition shears (100) of claim 11, wherein the blade insert member (128) extends all the way to a forwardmost portion of the front, nose portion (136) of the movable jaw (104) and wherein an inner-facing surface of one of the tip portions (158) that is in an operative position engages with an inner-facing surface of the blade insert member (128).
13. The metal demolition shears (100) of claim 12, wherein forward-facing surfaces (184, 129) of the tip portion (158) in the operative position and the blade insert member (128) are co-planar and bottom-facing surfaces (186) of the tip portion (158) in the operative position and the blade insert member (128) are co-planar such that a forward portion of the blade insert member (128) and a forward, lower portion of the tip portion (158) in the operative position together define a piercing tip portion of the movable jaw (104).
14. A jaw member (104, 104", 204) in combination with the indexable wear plate/piercing tip insert (150, 150', 150", 250a, 250b) of claim 1 for use in a metal demolition shears (100, 200), said jaw member (104, 104", 204) comprising:
- 25 a jaw body with a cutting/shearing edge (132) extending therealong, wherein the indexable wear plate/piercing tip insert (150, 150', 150", 250a, 250b) is attached at a front, nose portion (136, 136", 236) of said jaw body and extends at least partially across the width of the front, nose portion (136, 136", 236) of the jaw body; and wherein said piercing edge (188) extends at least partially across the width of the front, nose portion (136, 136", 236) of the jaw body.
- 30 15. A combination according to claim 14, wherein said second position is a position in which the wear plate/piercing tip insert (150, 150', 150", 250a, 250b) is rotated by 180° about said pivot axis.
- 35 16. A combination according to claim 14, wherein the front, nose portion (136, 136", 236) of the jaw body has a pocket or cavity (174, 274) extending laterally inwardly from a surface thereof into which the tip portions (158, 158", 258) of the wear plate/piercing tip insert (150, 150', 150", 250a, 250b) each fit, one of the tip portions (158, 158", 258) being fitted in said pocket or cavity (174, 274) when positioned in a non-operative position.
- 40 17. A combination according to claim 16, wherein the pocket or cavity (174, 274) has contours that match surface contours of the tip portions (158, 158", 258).
- 45 18. A combination according to claim 14, wherein the front, nose portion (136, 136", 236) of the jaw body has a notch (178, 278) formed in an underside thereof, the notch (178, 278) having surface contours that

- match surface contours of the tip portions (158, 158", 258), wherein one of the tip portions (158, 158", 258) that is positioned in an operative position engages with said notch (178, 278).

19. A combination according to claim 14, wherein said wear plate/piercing tip insert (150, 150', 150", 250a, 250b) further comprises a boss (166, 166', 266) that is located between said metal tip portions (158, 158", 258) and that extends laterally from said central region (154) in the direction of the first side (160) of said body (150, 150', 150", 250a, 250b) and wherein the front, nose portion (136, 136", 236) of said jaw body has a depression (182, 282) extending laterally inwardly from a surface thereof that matches surface contours of said boss (166, 166', 266), said boss (166, 166', 266) fitting within said depression (182, 282).

20. A combination according to claim 14, wherein the cutting/shearing edge (132) is provided by at least one blade insert member (128, 128", 228).

21. A combination according to claim 20, wherein the blade insert member (128) extends all the way to a forwardmost portion of the front, nose portion (136) of the jaw body and wherein an inner-facing surface of one of the tip portions (158) that is in an operative position engages with an inner-facing surface of the blade insert member (128).

22. A combination according to claim 21, wherein forward-facing surfaces (184, 129) of the tip portion (158) in the operative position and the blade insert member (128) are co-planar and bottom-facing surfaces (186) of the tip portion (158) in the operative position and the blade insert member (128) are coplanar such that a forward portion of the blade insert member (128) and a forward, lower portion of the tip portion (158) in the operative position together define a piercing tip portion of the jaw member (104).

23. The wear plate/piercing tip insert (150") of claim 1, wherein each of the piercing tips extends completely across the width of the front, nose portion (136") of the movable jaw (104") when the wear plate/piercing tip insert (150") is attached to the movable jaw (104").

24. The wear plate/piercing tip insert (150") of claim 23, wherein each of the tip portions (158") comprises a main portion (158a") that extends partially across the width of the front, nose portion (136") of the movable jaw (104") when the wear plate/piercing tip insert (150") is attached to the movable jaw (104") and an extension portion (158b") that protrudes from the main portion (158a") and extends completely across the width of the front, nose portion (136") of the movable jaw (104") when the wear plate/piercing tip insert (150") is attached to the movable jaw (104").

25. The metal demolition shears of claim 5, wherein each of the piercing tips extends completely across the width of the front, nose portion (136") of the movable jaw (104").

26. The metal demolition shears of claim 25, wherein each of the tip portions (158") comprises a main portion (158a") that extends partially across the width of the front, nose portion (136") of the movable jaw (104") and an extension portion (158b") that protrudes from the main portion (158a") and extends completely across the width of the front, nose portion (136") of the movable jaw (104").

27. A combination according to claim 14, wherein each of the piercing tips extends completely across the width of the front, nose portion (136") of the jaw body.

28. A combination according to claim 27, wherein each of the tip portions (158") comprises a main portion (158a") that extends partially across the width of the front, nose portion (136") of the jaw body and an extension portion (158b") that protrudes from the main portion (158a") and extends completely across the width of the front, nose portion (136") of the jaw body.

29. A matched pair of indexable wear plate/piercing tip inserts (250a, 250b) configured to be attached at a front, nose portion (236) of a correspondingly configured movable jaw (204) of a metal demolition shears (200), each of the wear plate/piercing tip inserts (250a, 250b) comprising an indexable wear plate/piercing tip insert (250a, 250b) according to claim 1, wherein the wear plate/piercing inserts (250a, 250b) of said pair are mirror symmetric with respect to each other and are configured to be attached to opposite sides of the front, nose portion (236) of the movable jaw (204) with a center, keel portion (237) of the nose portion (236) sandwiched therebetween.

30. The matched pair of indexable wear plate/piercing tip inserts (250a, 250b) of claim 29, wherein the tip portions (258) of the pair of indexable wear plate/piercing tip inserts (250a, 250b) protrude laterally far enough for two of the tip portions (258) to form, in combination with each other, an entire piercing tip of the movable jaw (204) when the pair of wear plate/piercing tip inserts (250a, 250b) are attached to the front, nose portion (236) of the movable jaw (204).

31. The matched pair of indexable wear plate/piercing tip inserts (250a, 250b) of claim 29, wherein the pair of wear plate/piercing tip inserts (250a, 250b) are configured such that they each can be mounted to

either side of the front, nose portion (236) of the movable jaw (204).

32. A metal demolition shears (200) in combination with the matched pair of indexable wear plate/piercing tip inserts (250a, 250b) of claim 29, the shears (200) comprising:

a fixed jaw (102) having a fixed blade member (116) with a first cutting/shearing edge (130) extending therealong and a guide member (120) spaced from and extending in generally parallel relation to said fixed blade member (116); and a movable jaw (204) with a second cutting/shearing edge (132) extending therealong and that pivots relative to said fixed jaw (102),

wherein the matched pair of indexable wear plate/piercing tip inserts (250a, 250b) are attached to opposite sides of a front, nose portion (236) of said movable jaw (204) with a center, keel portion (237) thereof sandwiched therebetween, wherein the piercing tip portion of each of said pair of indexable wear plate/piercing tip inserts (250a, 250b) extends partially across the width of the front, nose portion (236) of the movable jaw (204), and wherein said piercing edge (188) of each of said pair of indexable wear plate/piercing tip inserts (250a, 250b) extends partially across the width of the front, nose portion (236) of the movable jaw (204).

33. The metal demolition shears (200) of claim 32, wherein the tip portions (258) of the pair of indexable wear plate/piercing tip inserts (250a, 250b) protrude laterally far enough for two of the tip portions (258) to form, in combination with each other, an entire piercing tip of the movable jaw (204).

34. The metal demolition shears (200) of claim 32, wherein the pair of wear plate/piercing tip inserts (250a, 250b) are configured such that they each can be mounted to either side of the front, nose portion (236) of the movable jaw (204).

Patentansprüche

1. Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b), der dazu gestaltet ist, an einem vorderen Nasenabschnitt (136, 136", 236) einer entsprechend gestalteten beweglichen Backe (104, 104", 204) einer Metallbrüchscherre (100, 200) angebracht zu werden, wobei der Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b) Folgendes umfasst:

einen metallenen Körper (150, 150', 150", 250a, 250b), der einen Mittelabschnitt (154) und zwei

Enden (156) aufweist, und einen metallenen Spitzenabschnitt (158, 158", 258), der an einem der beiden Enden (156) angeordnet ist, wobei der Spitzenabschnitt (158, 158", 258) in Bezug auf den Mittelabschnitt (154) seitlich in die Richtung einer ersten Seite (160) des Körpers (150, 150', 150", 250a, 250b) vorspringt, um eine Durchstechspitze zu definieren, die sich zumindest teilweise über die Breite des vorderen Nasenabschnitts (136, 136", 236) der beweglichen Backe (104, 104", 204) erstreckt, wenn der Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b) an der beweglichen Backe (104, 104", 204) angebracht ist;

wobei eine zweite Seite (162) des Körpers (150, 150', 150", 250a, 250b), die der ersten Seite (160) entgegengesetzt ist, eine im Allgemeinen ebene Fläche (164) aufweist, um eine Verschleißfläche des Verschleißplatten/Durchstechspitzeneinsatzes (150, 150', 150", 250a, 250b) zu definieren; wobei der Spitzenabschnitt (158, 158", 258) eine Scherkante (190) an der zweiten Seite (162) des Körpers (150, 150', 150", 250a, 250b) und eine Durchstechkante (188), die in einem Winkel in Bezug auf die Scherkante (190) angeordnet ist und diese schneidet, aufweist, wobei sich die Durchstechkante (188) zumindest teilweise über die Breite des vorderen Nasenabschnitts (136, 136", 236) der beweglichen Backe (104, 104", 204) erstreckt, wenn der Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b) an der beweglichen Backe (104, 104", 204) angebracht ist;

dadurch gekennzeichnet, dass der metallene Spitzenabschnitt an jedem der beiden Enden (156) angeordnet ist, und dass der Einsatz wendbar ist, wobei die geometrische Gestaltung des Verschleißplatten/Durchstechspitzeneinsatzes (150, 150', 150", 250a, 250b) in einer ersten Stellung und in einer zweiten Stellung im Wesentlichen die gleiche ist, wobei die zweite Stellung eine Stellung ist, in der der Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b) um eine Drehachse (168), die senkrecht zur im Allgemeinen ebenen Fläche (164) zentral durch den Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b) verläuft, gedreht ist; wobei dem Metallzerstörungsschneider (100, 200) durch Drehen des Verschleißplatten/Durchstechspitzeneinsatzes (150, 150', 150", 250a, 250b) um die Drehachse (168) aus der ersten Stellung in die zweite Stellung und Wiederaufsetzen des Verschleißplatten/Durchstechspitzeneinsatzes (150, 150', 150", 250a, 250b) auf die bewegliche Backe (104, 104", 204) gleichzeitig ein nicht verschlissener oder weniger verschlissener Abschnitt der Verschleißfläche und nicht verschlissene oder weniger verschlissene Scher-

und Durchstechkanten (190, 188) geboten werden können.

2. Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b) nach Anspruch 1, wobei die zweite Stellung eine Stellung ist, in der der Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b) um 180° um die Drehachse gedreht ist.
3. Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b) nach Anspruch 1, wobei die Scherkante (190) jedes Spitzenabschnitts (158, 158", 258) mit der im Allgemeinen ebenen Fläche (164) koplanar ist und eine Kante davon bildet.
4. Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b) nach Anspruch 1, ferner umfassend zumindest einen Vorsprung oder Stift (166, 166', 266), der sich zwischen den metallenen Spitzenabschnitten (158, 158", 258) befindet und sich vom Mittelabschnitt (154) seitlich in die Richtung der ersten Seite (160) des Körpers (150, 150', 150", 250a, 250b) erstreckt.
5. Metallzerstörungsschneider (100, 200) in Kombination mit dem wendbaren Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b) nach Anspruch 1, wobei der Schneider Folgendes umfasst:

eine feste Backe (102), aufweisend ein festes Klingenelement (116) mit einer sich daran entlang erstreckenden ersten Schneide/Scherkante (130) und ein Führungselement (120), das vom festen Klingenelement (116) beabstandet ist und sich in einer im Allgemeinen parallelen Beziehung damit erstreckt; und
eine bewegliche Backe (104, 104", 204) mit einer sich daran entlang erstreckenden zweiten Schneide/Scherkante (132), die in Bezug auf die feste Backe (102) schwenkt,

wobei der wendbare Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b) an einem vorderen Nasenabschnitt (136, 136", 236) der beweglichen Backe (104, 104", 204) angebracht ist und sich zumindest teilweise über die Breite des vorderen Nasenabschnitts (136, 136", 236) der beweglichen Backe (104, 104", 204) erstreckt; und
wobei sich die Durchstechkante (188) zumindest teilweise über die Breite des vorderen Nasenabschnitts (136, 136", 236) der beweglichen Backe (104, 104", 204) erstreckt.

6. Metallzerstörungsschneider (100, 200) nach Anspruch 5, wobei die zweite Stellung eine Stellung ist, in der der Verschleißplatten/Durchstechspitzenein-

satz (150, 150', 150", 250a, 250b) um 180° um die Drehachse gedreht ist.

7. Metallzerstörungsschneider (100, 200) nach Anspruch 5, wobei der vordere Nasenabschnitt (136, 136", 236) der beweglichen Backe (104, 104", 204) eine Tasche oder Aushöhlung (174, 274) aufweist, die sich von einer Fläche (170) davon seitlich einwärts erstreckt, und in die jeder der Spitzenabschnitte (158, 158", 258) des Verschleißplatten/Durchstechspitzeneinsatzes (150, 150', 150", 250a, 250b) passt, wobei einer der Spitzenabschnitte (158, 158", 258) in diese Tasche oder Aushöhlung (174, 274) eingepasst ist, wenn er in einer Ruhestellung angeordnet ist.
8. Metallzerstörungsschneider (100, 200) nach Anspruch 7, wobei die Tasche oder Aushöhlung (174, 274) Konturen aufweist, die den Flächenkonturen der Spitzenabschnitte (158, 158", 258) entsprechen.
9. Metallzerstörungsschneider (100, 200) nach Anspruch 5, wobei der vordere Nasenabschnitt (136, 136", 236) der beweglichen Backe (104, 104", 204) eine Kerbe (178, 278) aufweist, die in einer Unterseite davon gebildet ist, wobei die Kerbe (178, 278) Flächenkonturen aufweist, die Flächenkonturen eines jeden der Spitzenabschnitte (158, 158", 258) entsprechen, wobei einer der Spitzenabschnitte (158, 158", 258), der in einer Betriebsstellung angeordnet ist, mit der Kerbe (178, 278) eingreift.
10. Metallzerstörungsschneider (100, 200) nach Anspruch 5, wobei der Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150", 250a, 250b) ferner zumindest einen Vorsprung oder Stift (166, 166', 266) umfasst, der sich zwischen den metallenen Spitzenabschnitten (158, 158", 258) befindet und sich vom Mittelabschnitt (154) seitlich in die Richtung der ersten Seite (160) des Körpers (150, 150', 150", 250a, 250b) erstreckt, und wobei der vordere Nasenabschnitt (136, 136", 236) der beweglichen Backe (104, 104", 204) eine Vertiefung (182, 282) aufweist, die sich von einer Fläche davon seitlich einwärts erstreckt und den Flächenkonturen des zumindest einen Vorsprungs oder Stifts (166, 166', 266) entspricht, wobei der zumindest eine Vorsprung oder Stift (166, 166', 266) in die Vertiefung (182, 282) passt.
11. Metallzerstörungsschneider (100, 200) nach Anspruch 5, wobei die zweite Schneide/Scherkante (132) durch zumindest ein Klingeneinsatzelement (128, 128°, 228) bereitgestellt ist.
12. Metallzerstörungsschneider (100) nach Anspruch 11, wobei sich das Klingeneinsatzelement (128) über die ganze Strecke hinweg bis zu einem vorder-

- sten Abschnitt des vorderen Nasenabschnitts (136) der beweglichen Backe (104) erstreckt, und wobei eine nach innen gerichtete Fläche eines der Spitzenabschnitte (158), der sich in einer Betriebsstellung befindet, mit einer nach innen gerichteten Fläche des Klingeneinsatzelements (128) eingreift.
13. Metallzerstörungsschneider (100) nach Anspruch 12, wobei nach vorne gerichtete Flächen (184, 129) des Spitzenabschnitts (158) in der Betriebsstellung und des Klingeneinsatzelements (128) koplanar sind, und nach unten gerichtete Flächen (186) des Spitzenabschnitts (158) in der Betriebsstellung und des Klingeneinsatzelements (128) koplanar sind, so dass ein vorderer Abschnitt des Klingeneinsatzelements (128) und ein vorderer unterer Abschnitt des Spitzenabschnitts (158) in der Betriebsstellung zusammen einen Durchstechspitzenabschnitt der beweglichen Backe (104) definieren.
14. Backenelement (104, 104'', 204) in Kombination mit dem wendbaren Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150'', 250a, 250b) nach Anspruch 1 zur Verwendung in einem Metallzerstörungsschneider (100, 200), wobei das Backenelement (104, 104'', 204) Folgendes umfasst:
- einen Backenkörper mit einer sich daran entlang erstreckenden Schneide/Scherkante (132),
- wobei der wendbare Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150'', 250a, 250b) an einem vorderen Nasenabschnitt (136, 136'', 236) des Backenkörpers angebracht ist und sich zumindest teilweise über die Breite des vorderen Nasenabschnitts (136, 136'', 236) des Backenkörpers erstreckt; und
- wobei sich die Durchstechkante (188) zumindest teilweise über die Breite des vorderen Nasenabschnitts (136, 136'', 236) des Backenkörpers erstreckt.
15. Kombination nach Anspruch 14, wobei die zweite Stellung eine Stellung ist, in der der Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150'', 250a, 250b) um 180° um die Drehachse gedreht ist.
16. Kombination nach Anspruch 14, wobei der vordere Nasenabschnitt (136, 136'', 236) des Backenkörpers eine Tasche oder Aushöhlung (174, 274) aufweist, die sich von einer Fläche davon seitlich einwärts erstreckt, und in die jeder der Spitzenabschnitte (158, 158'', 258) des Verschleißplatten/Durchstechspitzeneinsatzes (150, 150', 150'', 250a, 250b) passt, wobei einer der Spitzenabschnitte (158, 158'', 258) in diese Tasche oder Aushöhlung (174, 274) eingepasst ist, wenn er in einer Ruhestellung angeordnet ist.
17. Kombination nach Anspruch 16, wobei die Tasche oder Aushöhlung (174, 274) Konturen aufweist, die den Flächenkonturen der Spitzenabschnitte (158, 158'', 258) entsprechen.
18. Kombination nach Anspruch 14, wobei der vordere Nasenabschnitt (136, 136'', 236) des Backenkörpers eine Kerbe (178, 278) aufweist, die in einer Unterseite davon gebildet ist, wobei die Kerbe (178, 278) Flächenkonturen aufweist, die Flächenkonturen der Spitzenabschnitte (158, 158'', 258) entsprechen, wobei einer der Spitzenabschnitte (158, 158'', 258), der in einer Betriebsstellung angeordnet ist, mit der Kerbe (178, 278) eingreift.
19. Kombination nach Anspruch 14, wobei der Verschleißplatten/Durchstechspitzeneinsatz (150, 150', 150'', 250a, 250b) ferner einen Vorsprung (166, 166'', 266) umfasst, der sich zwischen den metallenen Spitzenabschnitten (158, 158'', 258) befindet und sich vom Mittelabschnitt (154) seitlich in die Richtung der ersten Seite (160) des Körpers (150, 150', 150'', 250a, 250b) erstreckt, und wobei der vordere Nasenabschnitt (136, 136'', 236) des Backenkörpers eine Vertiefung (182, 282) aufweist, die sich von einer Fläche davon seitlich einwärts erstreckt und den Flächenkonturen des Vorsprungs (166, 166'', 266) entspricht, wobei der Vorsprung (166, 166'', 266) in die Vertiefung (182, 282) passt.
20. Kombination nach Anspruch 14, wobei die Schneide/Scherkante (132) durch zumindest ein Klingeneinsatzelement (128, 128'', 228) bereitgestellt ist.
21. Kombination nach Anspruch 20, wobei sich das Klingeneinsatzelement (128) über die ganze Strecke hinweg bis zu einem vordersten Abschnitt des vorderen Nasenabschnitts (136) des Backenkörpers erstreckt, und wobei eine nach innen gerichtete Fläche eines der Spitzenabschnitte (158), der sich in einer Betriebsstellung befindet, mit einer nach innen gerichteten Fläche des Klingeneinsatzelements (128) eingreift.
22. Kombination nach Anspruch 21, wobei nach vorne gerichtete Flächen (184, 129) des Spitzenabschnitts (158) in der Betriebsstellung und des Klingeneinsatzelements (128) koplanar sind, und nach unten gerichtete Flächen (186) des Spitzenabschnitts (158) in der Betriebsstellung und des Klingeneinsatzelements (128) koplanar sind, so dass ein vorderer Abschnitt des Klingeneinsatzelements (128) und ein vorderer unterer Abschnitt des Spitzenabschnitts (158) in der Betriebsstellung zusammen einen Durchstechspitzenabschnitt des Backenelements (104) definieren.
23. Verschleißplatten/Durchstechspitzeneinsatz (150'')

- nach Anspruch 1, wobei sich jede der Durchstechspitzen vollständig über die Breite des vorderen Nasenabschnitts (136") der beweglichen Backe (104") erstreckt, wenn der Verschleißplatten/Durchstechspitzeneinsatz (150") an der beweglichen Backe (104") angebracht ist.
24. Verschleißplatten/Durchstechspitzeneinsatz (150") nach Anspruch 23, wobei jeder der Spitzenabschnitte (158") einen Hauptabschnitt (158a"), der sich teilweise über die Breite des vorderen Nasenabschnitts (136") der beweglichen Backe (104") erstreckt, wenn der Verschleißplatten/Durchstechspitzeneinsatz (150") an der beweglichen Backe (104") angebracht ist, und einen Erweiterungsabschnitt (158b"), der vom Hauptabschnitt (158a") vorspringt und sich vollständig über die Breite des vorderen Nasenabschnitts (136") der beweglichen Backe (104") erstreckt, wenn der Verschleißplatten/Durchstechspitzeneinsatz (150") an der beweglichen Backe (104") angebracht ist, umfasst.
25. Metallzerstörungsschneider nach Anspruch 5, wobei sich jede der Durchstechspitzen vollständig über die Breite des vorderen Nasenabschnitts (136") der beweglichen Backe (104") erstreckt.
26. Metallzerstörungsschneider nach Anspruch 25, wobei jeder der Spitzenabschnitte (158") einen Hauptabschnitt (158a"), der sich teilweise über die Breite des vorderen Nasenabschnitts (136") der beweglichen Backe (104") erstreckt, und einen Erweiterungsabschnitt (158b"), der vom Hauptabschnitt (158a") vorspringt und sich vollständig über die Breite des vorderen Nasenabschnitts (136") der beweglichen Backe (104") erstreckt, umfasst.
27. Kombination nach Anspruch 14, wobei sich jede der Durchstechspitzen vollständig über die Breite des vorderen Nasenabschnitts (136") des Backenkörpers erstreckt.
28. Kombination nach Anspruch 27, wobei jeder der Spitzenabschnitte (158") einen Hauptabschnitt (158a"), der sich teilweise über die Breite des vorderen Nasenabschnitts (136") des Backenkörpers erstreckt, und einen Erweiterungsabschnitt (158b"), der vom Hauptabschnitt (158a") vorspringt und sich vollständig über die Breite des vorderen Nasenabschnitts (136") des Backenkörpers erstreckt, umfasst.
29. Zusammenpassendes Paar von wendbaren Verschleißplatten/Durchstechspitzeneinsätzen (250a, 250b), die dazu gestaltet sind, an einem vorderen Nasenabschnitt (236) einer entsprechend gestalteten beweglichen Backe (204) einer Metallbruchschere (200) angebracht zu werden, wobei jeder der Verschleißplatten/Durchstechspitzeneinsätze (250a, 250b) einen wendbaren Verschleißplatten/Durchstechspitzeneinsatz (250a, 250b) nach Anspruch 1 umfasst, wobei die Verschleißplatten/Durchstechspitzeneinsätze (250a, 250b) des Paares in Bezug zueinander spiegelsymmetrisch sind und dazu gestaltet sind, an entgegengesetzten Seiten des vorderen Nasenabschnitts (236) der beweglichen Backe (204) angebracht zu werden, wobei sich ein mittlerer Kielabschnitt (237) des Nasenabschnitts (236) dazwischen befindet.
30. Zusammenpassendes Paar von wendbaren Verschleißplatten/Durchstechspitzeneinsätzen (250a, 250b) nach Anspruch 29, wobei die Spitzenabschnitte (258) des Paares von wendbaren Verschleißplatten/Durchstechspitzeneinsätzen (250a, 250b) seitlich weit genug vorspringen, dass zwei der Spitzenabschnitte (258) in Kombination miteinander eine ganze Durchstechspitze der beweglichen Backe (204) bilden, wenn das Paar von Verschleißplatten/Durchstechspitzeneinsätzen (250a, 250b) am vorderen Nasenabschnitt (236) der beweglichen Backe (204) angebracht ist.
31. Zusammenpassendes Paar von wendbaren Verschleißplatten/Durchstechspitzeneinsätzen (250a, 250b) nach Anspruch 29, wobei das Paar von Verschleißplatten/Durchstechspitzeneinsätzen (250a, 250b) so gestaltet ist, dass diese jeweils an beiden Seiten des vorderen Nasenabschnitts (236) der beweglichen Backe (204) befestigt werden können.
32. Metallzerstörungsschneider (200) in Kombination mit dem zusammenpassenden Paar von wendbaren Verschleißplatten/Durchstechspitzeneinsätzen (250a, 250b) nach Anspruch 29, wobei der Schneider (200) Folgendes umfasst:
- eine feste Backe (102), aufweisend ein festes Klingenelement (116) mit einer sich daran entlang erstreckenden ersten Schneide/Scherkante (130) und ein Führungselement (120), das vom festen Klingenelement (116) beabstandet ist und sich in einer im Allgemeinen parallelen Beziehung damit erstreckt; und
eine bewegliche Backe (204) mit einer sich daran entlang erstreckenden zweiten Schneide/Scherkante (132), die in Bezug auf die feste Backe (102) schwenkt,
- wobei das zusammenpassende Paar von wendbaren Verschleißplatten/Durchstechspitzeneinsätzen (250a, 250b) an entgegengesetzten Seiten des vorderen Nasenabschnitts (236) der beweglichen Backe (204) angebracht ist, wobei sich ein mittlerer Kielabschnitt (237) davon dazwischen befindet, wobei

sich der Durchstechspitzenabschnitt eines jeden des Paars von wendbaren Verschleißplatten/Durchstechspitzeneinsätzen (250a, 250b) teilweise über die Breite des vorderen Nasenabschnitts (236) der beweglichen Backe (204) erstreckt, und wobei sich die Durchstechkante (188) eines jeden des Paars von wendbaren Verschleißplatten/Durchstechspitzeneinsätzen (250a, 250b) teilweise über die Breite des vorderen Nasenabschnitts (236) der beweglichen Backe (204) erstreckt.

33. Metallzerstörungsschneider (200) nach Anspruch 32, wobei die Spitzenabschnitte (258) des Paars von wendbaren Verschleißplatten/Durchstechspitzeneinsätzen (250a, 250b) seitlich weit genug vorspringen, dass zwei der Spitzenabschnitte (258) in Kombination miteinander eine ganz Durchstechspitze der beweglichen Bakke (204) bilden.

34. Metallzerstörungsschneider (200) nach Anspruch 32, wobei das Paar von Verschleißplatten/Durchstechspitzeneinsätzen (250a, 250b) so gestaltet ist, dass sie jeweils an beiden Seiten des vorderen Nasenabschnitts (236) der beweglichen Backe (204) befestigt werden können.

Revendications

1. Elément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) destiné à être attaché au niveau de l'extrémité avant (136, 136", 236) d'une mâchoire mobile (104, 104", 204) de cisaille de démolition de métaux (100, 200) configurée à cet effet, l'élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) comprenant :

un corps métallique (150, 150', 150", 250a, 250b) ayant une région centrale (154) et deux extrémités (156), et

une partie terminale métallique (158, 158", 258) disposée au niveau d'une desdites deux extrémités (156), ladite partie terminale (158, 158", 258) faisant saillie latéralement par rapport à ladite région centrale (154) dans la direction d'un premier côté (160) dudit corps (150, 150', 150", 250a, 250b) de manière à définir une pointe de perçage qui s'étende au moins partiellement sur la largeur de l'extrémité avant (136, 136", 236) de la mâchoire mobile (104, 104", 204) lorsque l'élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) est attaché à la mâchoire mobile (104, 104", 204),

dans lequel un second côté (162) dudit corps (150, 150', 150", 250a, 250b), qui est opposé au premier côté (160), présente une surface globalement plane

(164) pour définir une surface d'usure dudit élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b), dans lequel ladite partie terminale (158, 158", 258) présente un angle de cisaillement (190) sur ledit second côté (162) dudit corps (150, 150', 150", 250a, 250b) et un bord de perçage (188) disposé angulairement par rapport audit bord de cisaillement (190) etsécant avec ce dernier, ledit bord de perçage (188) s'étendant au moins partiellement sur la largeur de l'extrémité avant (136, 136", 236) de la mâchoire (104, 104", 204) lorsque l'élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) est attaché à la mâchoire mobile (104, 104", 204) ; caractérisé en ce que ladite partie terminale métallique est disposée au niveau de chacune desdites deux extrémités (156) et en ce que l'élément d'insertion est indexable

de sorte que la configuration géométrique dudit élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) est实质iellement la même dans une première position et une seconde position, ladite seconde position étant une position dans laquelle ledit élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) est retourné selon un axe de pivotement (168) passant au centre dudit élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b), perpendiculairement à ladite surface globalement plane (164) ; et de sorte qu'une partie non usée ou moins usée de ladite surface d'usure et des bords de cisaillement et de perçage non usés ou moins usés (190, 188) peuvent être présentés simultanément sur la cisaille de démolition de métaux (100, 200) en faisant tourner ledit élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) autour dudit axe de pivotement (168) de ladite première position à ladite seconde position et en replaçant ledit élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) sur la mâchoire mobile (104, 104", 204).

2. Elément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) selon la revendication 1, dans lequel ladite seconde position est une position dans laquelle l'élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) est tourné de 180° autour dudit axe de pivotement.

3. Elément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) selon la revendication 1, dans lequel le bord de cisaillement (190) de chaque partie terminale (158, 158", 258) est coplanaire avec ladite surface globalement plane (164) et forme un bord de celle-ci.

4. Elément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) selon la revendication 1, comprenant en outre au moins un bossage ou une cheville (166, 166", 266) situé entre lesdites parties terminales métalliques (158, 158", 258) et s'étendant latéralement depuis ladite région centrale (154) dans la direction du premier côté (160) dudit corps (150, 150', 150", 250a, 250b).
5. Cisaille de démolition de métaux (100, 200) en association avec l'élément d'insertion à pointe de perçage et plaque d'usure indexable (150, 150', 150", 250a, 250b) selon la revendication 1, la cisaille (100, 200) comprenant :
- une mâchoire fixe (102) ayant un élément de lame fixe (116) avec un premier bord de coupe/cisaillage (130) s'étendant le long de celui-ci et un élément de guidage (120) séparé dudit élément de lame fixe (116) et s'étendant dans une relation globalement parallèle à celui-ci; et une mâchoire mobile (104, 104", 204) avec un second bord de coupe/cisaillage (132) s'étendant le long de celui-ci et qui pivote par rapport à ladite mâchoire fixe (102),
- dans laquelle l'élément d'insertion à pointe de perçage et plaque d'usure indexable (150, 150', 150", 250a, 250b) est attaché au niveau d'une extrémité avant (136, 136", 236) de ladite mâchoire mobile (104, 104", 204) et s'étendant au moins partiellement sur la largeur de l'extrémité avant (136, 136", 236) de la mâchoire mobile (104, 104", 204); et dans laquelle ledit bord de perçage (188) s'étend au moins partiellement sur la largeur de l'extrémité avant (136, 136", 236) de la mâchoire mobile (104, 104", 204).
6. Cisaille de démolition de métaux (100, 200) selon la revendication 5, dans laquelle ladite seconde position est une position dans laquelle l'élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) est tourné de 180° autour dudit axe de pivotement.
7. Cisaille de démolition de métaux (100, 200) selon la revendication 5, dans laquelle l'extrémité avant (136, 136", 236) de la mâchoire mobile (104, 104", 204) possède une poche ou cavité (174, 274) s'étendant latéralement vers l'intérieur depuis une surface (170) de celle-ci dans laquelle s'insère chacune des parties terminales (158, 158", 258) de l'élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b), une des parties terminales (158, 158", 258) s'insérant dans ladite poche ou cavité (174, 274) lorsqu'elle est positionnée dans une position inactive.
8. Cisaille de démolition de métaux (100, 200) selon la revendication 7, dans laquelle la poche ou cavité (174, 274) présente des contours qui correspondent aux contours de surface des parties terminales (158, 158", 258).
9. Cisaille de démolition de métaux (100, 200) selon la revendication 5, dans laquelle l'extrémité avant (136, 136", 236) de la mâchoire mobile (104, 104", 204) présente une encoche (178, 278) formée dans un dessous de celle-ci, l'encoche (178, 278) ayant des contours de surface qui correspondent aux contours de surface de chacune des parties terminales (158, 158", 258), et dans laquelle une des parties terminales (158, 158", 258) qui est positionnée dans une position active s'engage dans ladite encoche (178, 278).
10. Cisaille de démolition de métaux (100, 200) selon la revendication 5, dans laquelle ledit élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) comprend en outre au moins un bossage ou une cheville (166, 166", 266) qui se situe entre lesdites parties terminales métalliques (158, 158", 258) et qui s'étend latéralement depuis ladite région centrale (154) dans la direction du premier côté (160) dudit corps (150, 150', 150", 250a, 250b) et dans laquelle l'extrémité avant (136, 136", 236) de la mâchoire mobile (104, 104", 204) présente un creux (182, 282) s'étendant latéralement vers l'intérieur depuis une surface de celle-ci qui correspond aux contours de surface dudit au moins un bossage ou de ladite au moins une cheville (166, 166", 266), ledit au moins un bossage ou ladite au moins une cheville (166, 166", 266) s'insérant dans ledit creux (182, 282).
11. Cisaille de démolition de métaux (100, 200) selon la revendication 5, dans laquelle le second bord de coupe/cisaillage (132) est créé par au moins un élément d'insertion à lame (128, 128", 228).
12. Cisaille de démolition de métaux (100) selon la revendication 11, dans laquelle l'élément d'insertion à lame (128) s'étend tout du long jusqu'à la partie la plus en avant de l'extrémité avant (136) de la mâchoire mobile (104) et dans laquelle une surface orientée vers l'intérieur d'une des parties terminales (158) qui se trouve en position active s'engage avec une surface orientée vers l'intérieur de l'élément d'insertion à lame (128).
13. Cisaille de démolition de métaux (100) selon la revendication 12, dans laquelle des surfaces orientées vers l'intérieur (184, 129) de la partie terminale (158) dans la position active et de l'élément d'insertion à lame (128) sont coplanaires et les surfaces orientées vers le fond (186) de la partie terminale (158) en

position active et de l'élément d'insertion à lame (128) sont coplanaires de sorte qu'une partie avant de l'élément d'insertion à lame (128) et une partie inférieure avant de la partie terminale (158) en position active définissent ensemble une partie terminale de perçage de la mâchoire mobile (104).

14. Élément de mâchoire (104, 104", 204) en association avec l'élément d'insertion à pointe de perçage et plaque d'usure indexable (150, 150', 150", 250a, 250b) selon la revendication 1 pour utilisation dans une cisaille de démolition de métaux (100, 200), ledit élément de mâchoire (104, 104", 204) comprenant :

un corps de mâchoire avec un bord de coupe/cisaillage (132) s'étendant le long de celui-ci,

dans lequel l'élément d'insertion à pointe de perçage et plaque d'usure indexable (150, 150', 150", 250a, 250b) est attaché au niveau d'une extrémité avant (136, 136", 236) dudit corps de mâchoire et s'étend au moins partiellement sur la largeur de l'extrémité avant (136, 136", 236) du corps de mâchoire ; et dans lequel ledit bord de perçage (188) s'étend au moins partiellement sur la largeur de l'extrémité avant (136, 136", 236) du corps de mâchoire.

15. Combinaison selon la revendication 14, dans laquelle la ladite seconde position est une position dans laquelle l'élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) est tournée de 180° autour dudit axe de pivotement.

16. Combinaison selon la revendication 14, dans laquelle l'extrémité avant (136, 136", 236) du corps de mâchoire possède une poche ou cavité (174, 274) s'étendant latéralement vers l'intérieur depuis une surface de celle-ci dans laquelle s'insère chacune des parties terminales (158, 158", 258) de l'élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b), une des parties terminales (158, 158", 258) s'insérant dans ladite poche ou cavité (174, 274) lorsqu'elle est positionnée dans une position inactive.

17. Combinaison selon la revendication 16, dans laquelle la poche ou cavité (174, 274) présente des contours qui correspondent aux contours de surface des parties terminales (158, 158", 258).

18. Combinaison selon la revendication 14, dans laquelle l'extrémité avant (136, 136", 236) du corps de mâchoire possède une encoche (178, 278) formée dans un dessous de celle-ci, l'encoche (178, 278) ayant des contours de surface qui correspondent aux contours de surface de chacune des parties terminales (158, 158", 258), dans laquelle une des parties terminales (158, 158", 258) qui est positionnée dans

une position active s'engage avec ladite encoche (178, 278).

5 19. Combinaison selon la revendication 14, dans laquelle l'élément d'insertion à pointe de perçage et plaque d'usure (150, 150', 150", 250a, 250b) comprend en outre un bossage (166, 166", 266) qui se situe entre lesdites parties terminales métalliques (158, 158", 258) et qui s'étend latéralement depuis ladite région centrale (154) dans la direction du premier côté (160) dudit corps (150, 150', 150", 250a, 250b) et dans laquelle l'extrémité avant (136, 136", 236) dudit corps de mâchoire possède un creux (182, 282) s'étendant latéralement vers l'intérieur depuis une surface de celle-ci qui correspond aux contours de surface dudit bossage (166, 166", 266), ledit un bossage (166, 166", 266) s'insérant dans ledit creux (182, 282).

10 20. Combinaison selon la revendication 14, dans laquelle le bord de coupe/cisaillage (132) est créé par au moins un élément d'insertion à lame (128, 128", 228).

15 21. Combinaison selon la revendication 20, dans laquelle l'élément d'insertion à lame (128) s'étend tout du long jusqu'à la partie la plus en avant de l'extrémité avant (136) du corps de mâchoire et dans laquelle une surface orientée vers l'intérieur d'une des parties terminales (158) qui se trouve dans une position active s'engage avec une surface orientée vers l'intérieur de l'élément d'insertion à lame (128).

20 22. Combinaison selon la revendication 21, dans laquelle les surfaces orientées vers l'avant (184, 129) de la partie terminale (158) dans la position active et de l'élément d'insertion à lame (128) sont coplanaires et dans laquelle les surfaces orientées vers le fond (186) de la partie terminale (158) dans la position active et de l'élément d'insertion à lame (128) sont coplanaires, de sorte qu'une position avant de l'élément d'insertion à lame (128) et une partie inférieure avant de la partie terminale (158) dans la position active définissent ensemble une partie terminale de perçage de l'élément de mâchoire (104).

25 23. Élément d'insertion à pointe de perçage et plaque d'usure (150") selon la revendication 1, dans lequel chacune des pointes de perçage s'étend complètement sur la largeur de l'extrémité avant (136") de la mâchoire mobile (104") lorsque l'élément d'insertion à pointe de perçage et plaque d'usure (150") est attaché à la mâchoire mobile (104").

30 24. Élément d'insertion à pointe de perçage et plaque d'usure (150") selon la revendication 23, dans lequel chacune des parties terminales (158") comprend une partie principale (158a") qui s'étend partiellement

- ment sur la largeur de l'extrémité avant (136") de la mâchoire mobile (104") lorsque l'élément d'insertion à pointe de perçage et plaque d'usure (150") est attaché à la mâchoire mobile (104") et une partie d'extension (158b") qui fait saillie depuis la partie principale (158a") et s'étend complètement sur la largeur de l'extrémité avant (136") de la mâchoire mobile (104") lorsque l'élément d'insertion à pointe de perçage et plaque d'usure (150") est attaché à la mâchoire mobile (104").
25. Cisaille de démolition de métaux selon la revendication 5, dans laquelle chacune des pointes de perçage s'étend complètement sur la largeur de l'extrémité avant (136") de la mâchoire mobile (104").
26. Cisaille de démolition de métaux selon la revendication 25, dans laquelle chacune des parties terminales (158") comprend une partie principale (158a") qui s'étend partiellement sur la largeur de l'extrémité avant (136") de la mâchoire mobile (104") et une partie d'extension (158b") qui fait saillie depuis la partie principale (158a") et s'étend complètement sur la largeur de l'extrémité avant (136") de la mâchoire mobile (104").
27. Combinaison selon la revendication 14, dans laquelle chacune des pointes de perçage s'étend complètement sur la largeur de l'extrémité avant (136") du corps de mâchoire.
28. Combinaison selon la revendication 27, dans laquelle chacune des parties terminales (158") comprend une partie principale (158a") qui s'étend partiellement sur la largeur de l'extrémité avant (136") du corps de mâchoire et une partie d'extension (158b") qui fait saillie depuis la partie principale (158a") et s'étend complètement sur la largeur de l'extrémité avant (136") du corps de mâchoire.
29. Paire d'éléments d'insertion à pointe de perçage et plaque d'usure indexables associés (250a, 250b) configurés pour être attachés au niveau d'une extrémité avant (236) d'une mâchoire mobile (204), configurée de façon correspondante, d'une cisaille de démolition de métaux (200), chacun des éléments d'insertion à pointe de perçage et plaque d'usure (250a, 250b) comprenant un élément d'insertion à pointe de perçage et plaque d'usure (250a, 250b) selon la revendication 1, dans laquelle les éléments d'insertion à pointe de perçage et plaque d'usure (250a, 250b) de ladite paire présentent une symétrie miroir l'un par rapport à l'autre et sont configurés pour être attachés aux côtés opposés de l'extrémité avant (236) de la mâchoire mobile (204), avec une partie de quille centrale (237) de l'extrémité (236) coincée entre eux.
- 5 30. Paire d'éléments d'insertion à pointe de perçage et plaque d'usure indexables associés (250a, 250b) selon la revendication 29, dans laquelle les parties terminales (258) de la paire d'éléments d'insertion à pointe de perçage et plaque d'usure indexables (250a, 250b) font saillie latéralement assez loin pour que deux des parties terminales (258) forment, en association l'une avec l'autre, une pointe de perçage entière de la mâchoire mobile (204) lorsque les deux éléments d'insertion à pointe de perçage et plaque d'usure (250a, 250b) sont attachés à l'extrémité avant (236) de la mâchoire mobile (204).
- 10 31. Paire d'éléments d'insertion à pointe de perçage et plaque d'usure indexables associés (250a, 250b) selon la revendication 29, dans laquelle les deux éléments d'insertion à pointe de perçage et plaque d'usure (250a, 250b) sont configurés de sorte qu'ils puissent être chacun montés indifféremment sur l'un ou l'autre des côtés de l'extrémité avant (236) de la mâchoire mobile (204).
- 15 32. Cisaille de démolition de métaux (200) en association avec la paire d'éléments d'insertion à pointe de perçage et plaque d'usure indexables associés (250a, 250b) selon la revendication 29, la cisaille (200) comprenant :
- 20 une mâchoire fixe (102) ayant un élément de lame fixe (116) avec un premier bord de coupe/cisaillage (130) s'étendant le long de celui-ci et un élément de guidage (120) séparé dudit élément de lame fixe (116) et s'étendant dans une relation globalement parallèle à celui-ci ; et une mâchoire mobile (204) avec un second bord de coupe/cisaillage (132) s'étendant le long de celui-ci et qui pivote par rapport à ladite mâchoire fixe (102),
- 25 33. Cisaille de démolition de métaux (200) selon la revendication 32, dans laquelle les deux éléments d'insertion à pointe de perçage et plaque d'usure indexables associés (250a, 250b) sont attachés aux côtés opposés d'une extrémité avant (236) de ladite mâchoire mobile (204) avec une partie de quille centrale (237) de celle-ci coincée entre eux, dans laquelle la partie terminale de perçage de chaque élément de ladite paire d'éléments d'insertion à pointe de perçage et plaque d'usure indexables (250a, 250b) s'étend partiellement sur la largeur de l'extrémité avant (236) de la mâchoire mobile (204), et dans laquelle ledit bord de perçage (188) de chaque élément de ladite paire d'éléments d'insertion à pointe de perçage et plaque d'usure indexables (250a, 250b) s'étend partiellement sur la largeur de l'extrémité avant (236) de la mâchoire mobile (204).
- 30 34. Cisaille de démolition de métaux (200) selon la revendication 32, dans laquelle les parties terminales
- 35
- 40
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(258) de la paire d'éléments d'insertion à pointe de perçage et plaque d'usure indexables (250a, 250b) font saillie latéralement suffisamment loin pour que deux des parties terminales (258) forment, en association l'une avec l'autre, une pointe de perçage en- 5 tière de la mâchoire mobile (204).

34. Cisaille de démolition de métaux (200) selon la revendication 32, dans laquelle les deux éléments d'insertion à pointe de perçage et plaque d'usure (250a, 10 250b) sont configurés de sorte qu'ils puissent chacun être montés indifféremment sur l'un ou l'autre des côtés de l'extrémité avant (236) de la mâchoire mobile (204).

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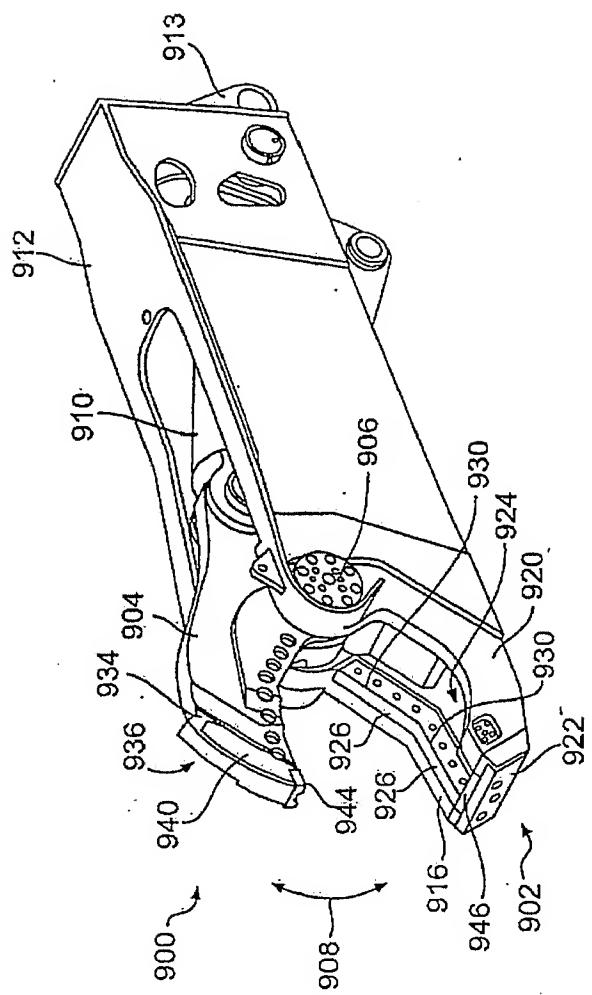


FIG. 1
PRIOR ART

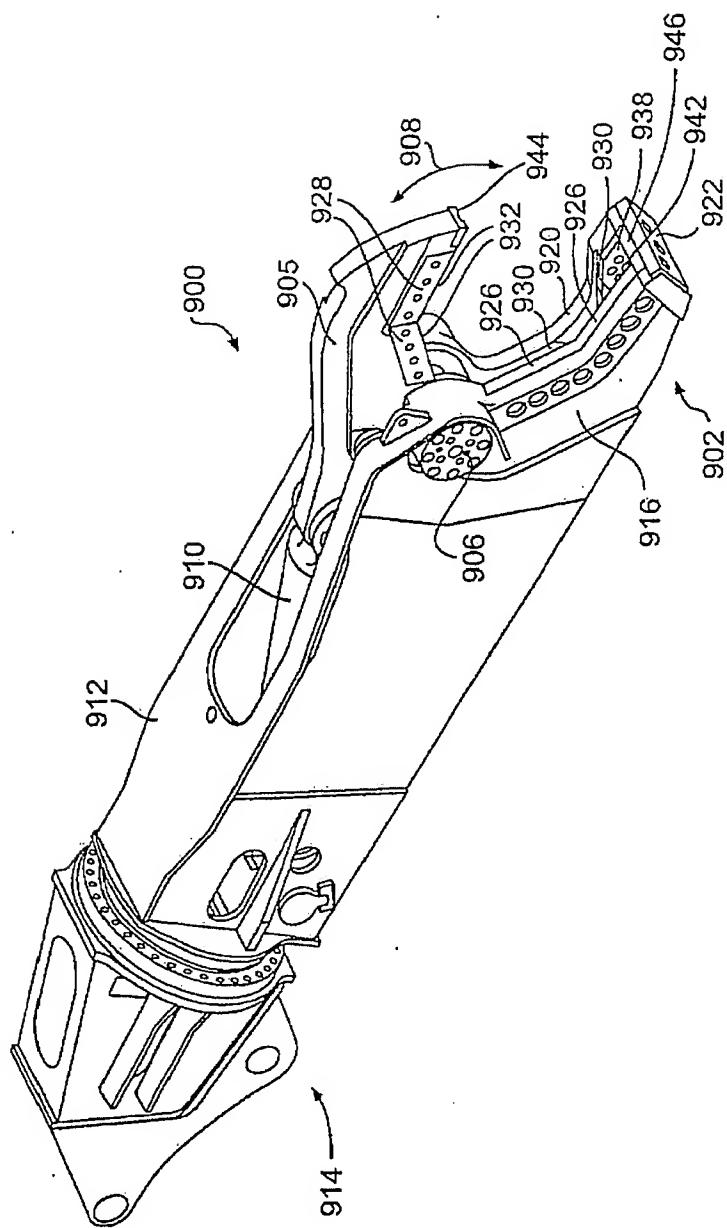


FIG. 2
PRIOR ART

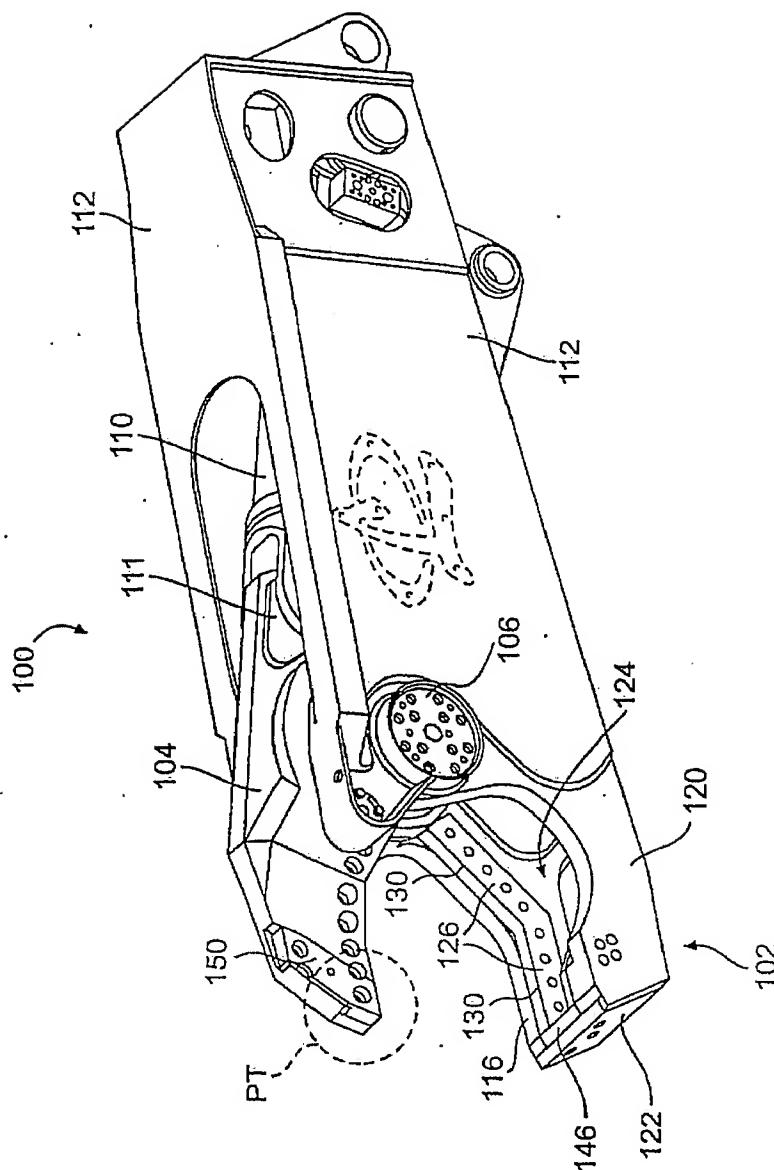


FIG. 3

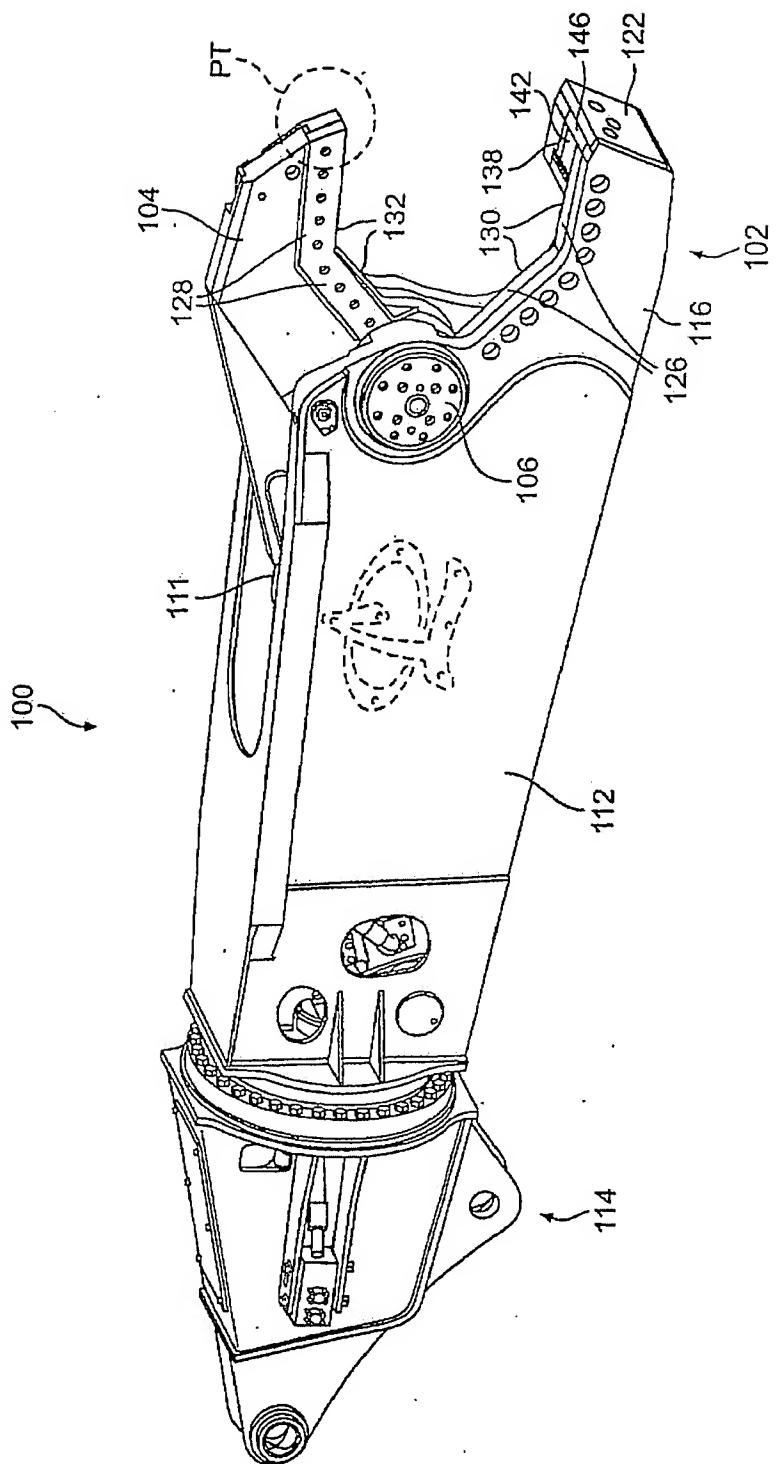


FIG. 4

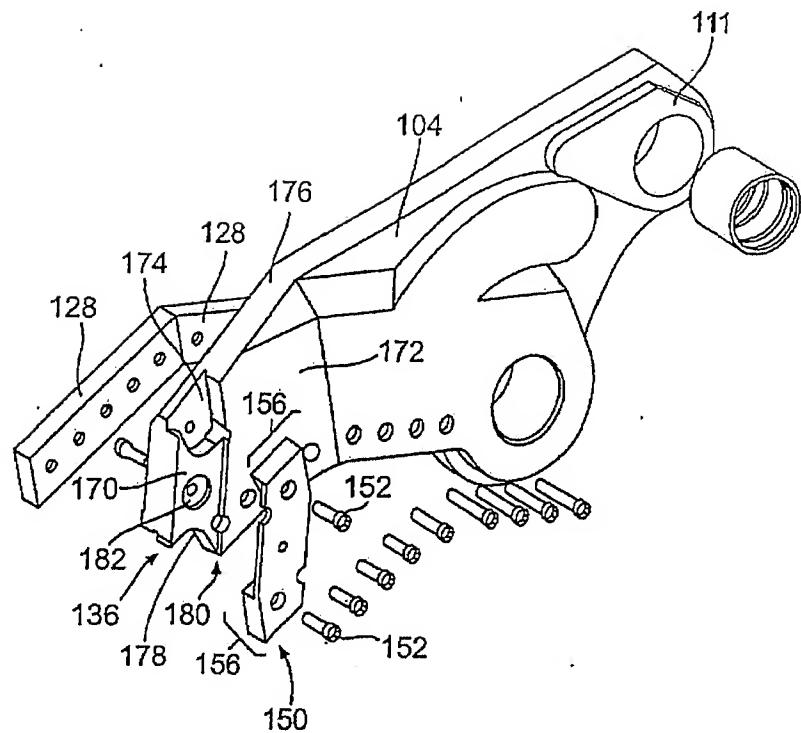


FIG. 5

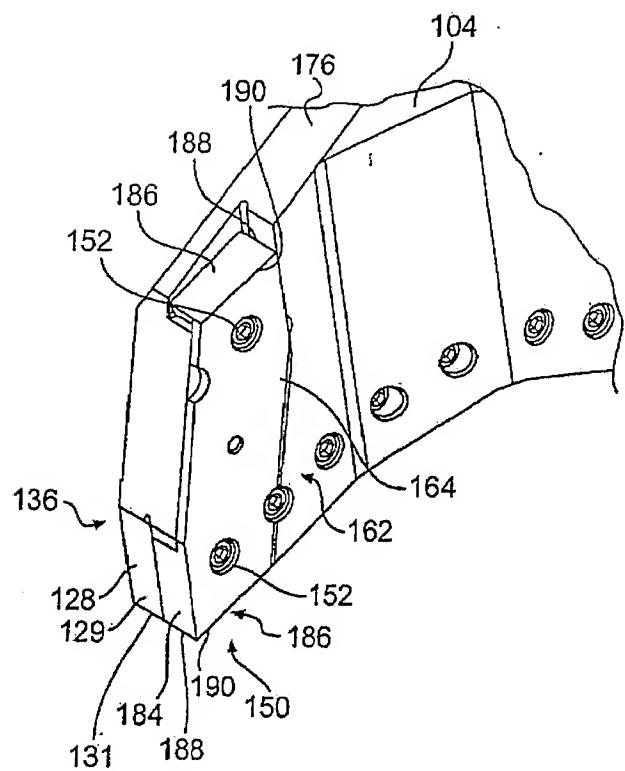


FIG. 6

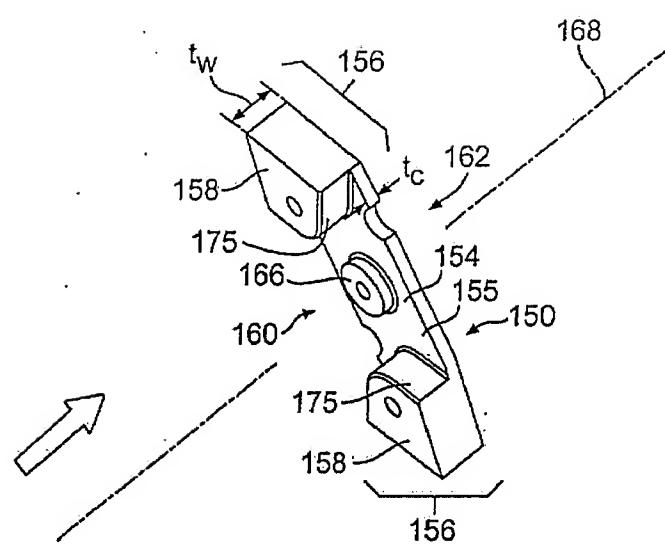


FIG. 7

FIG. 8b

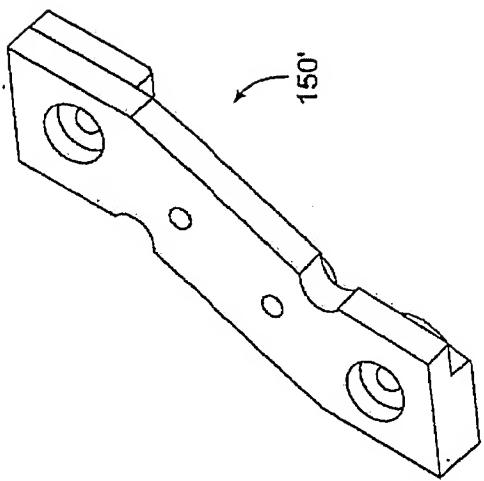
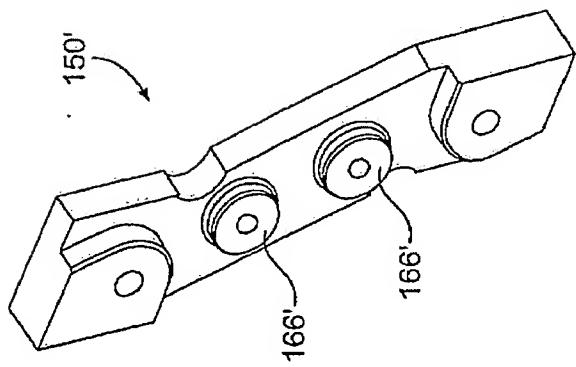


FIG. 8a



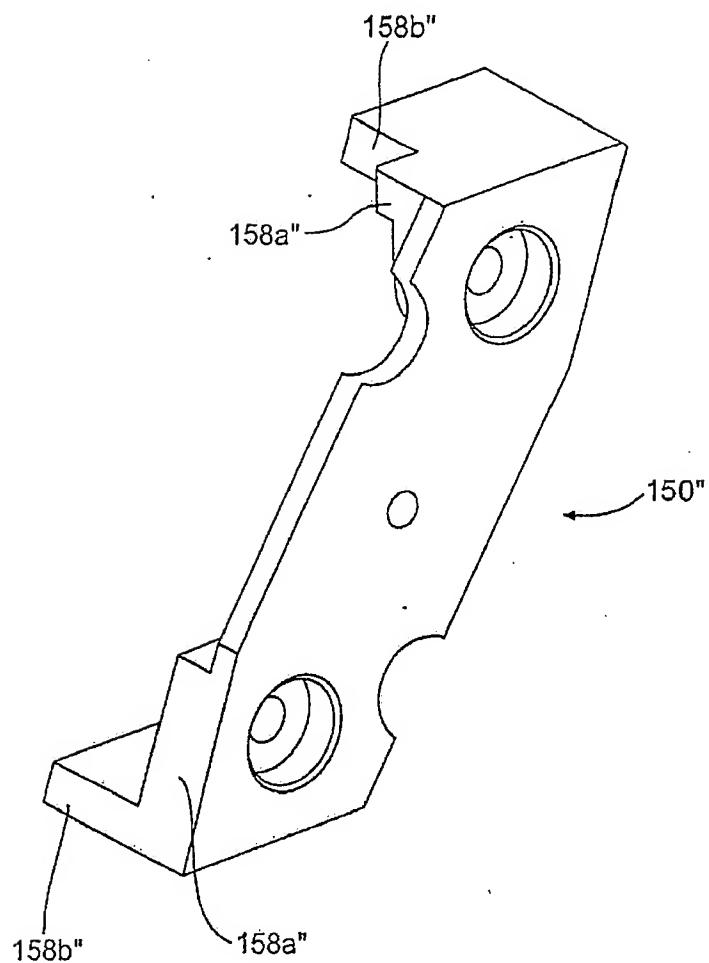


FIG. 9

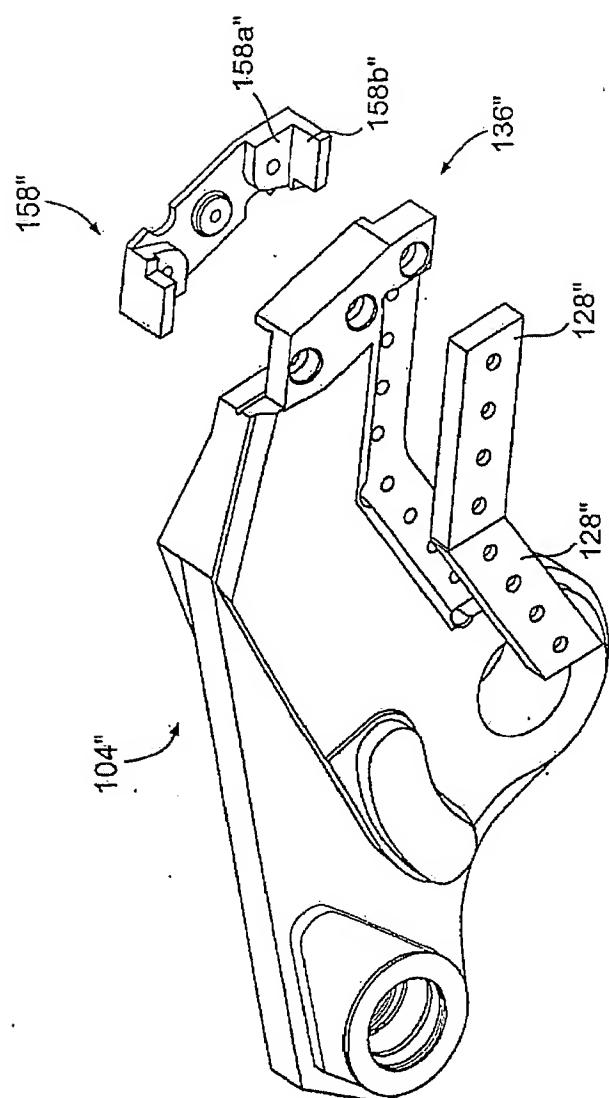


FIG. 10

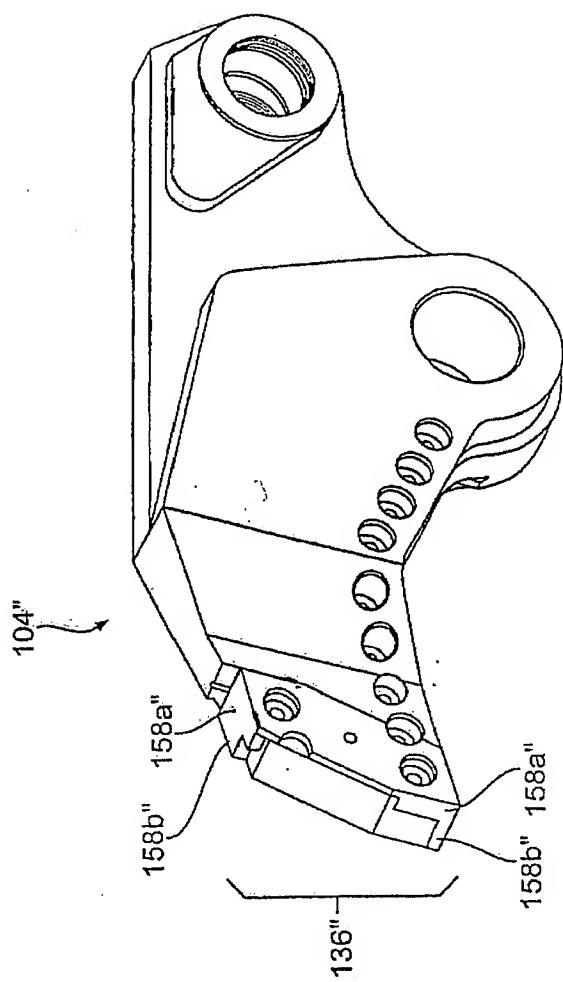


FIG. 11

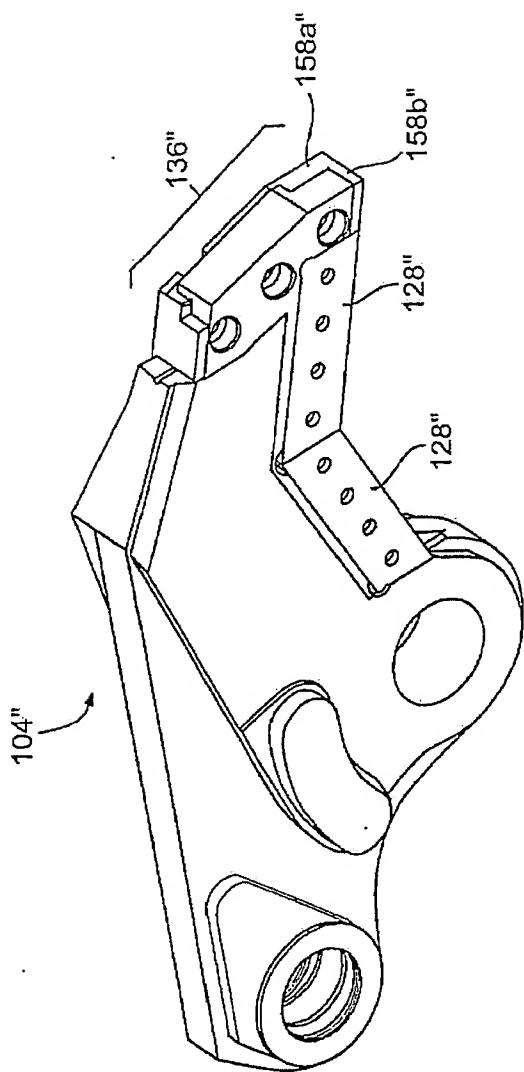


FIG. 12

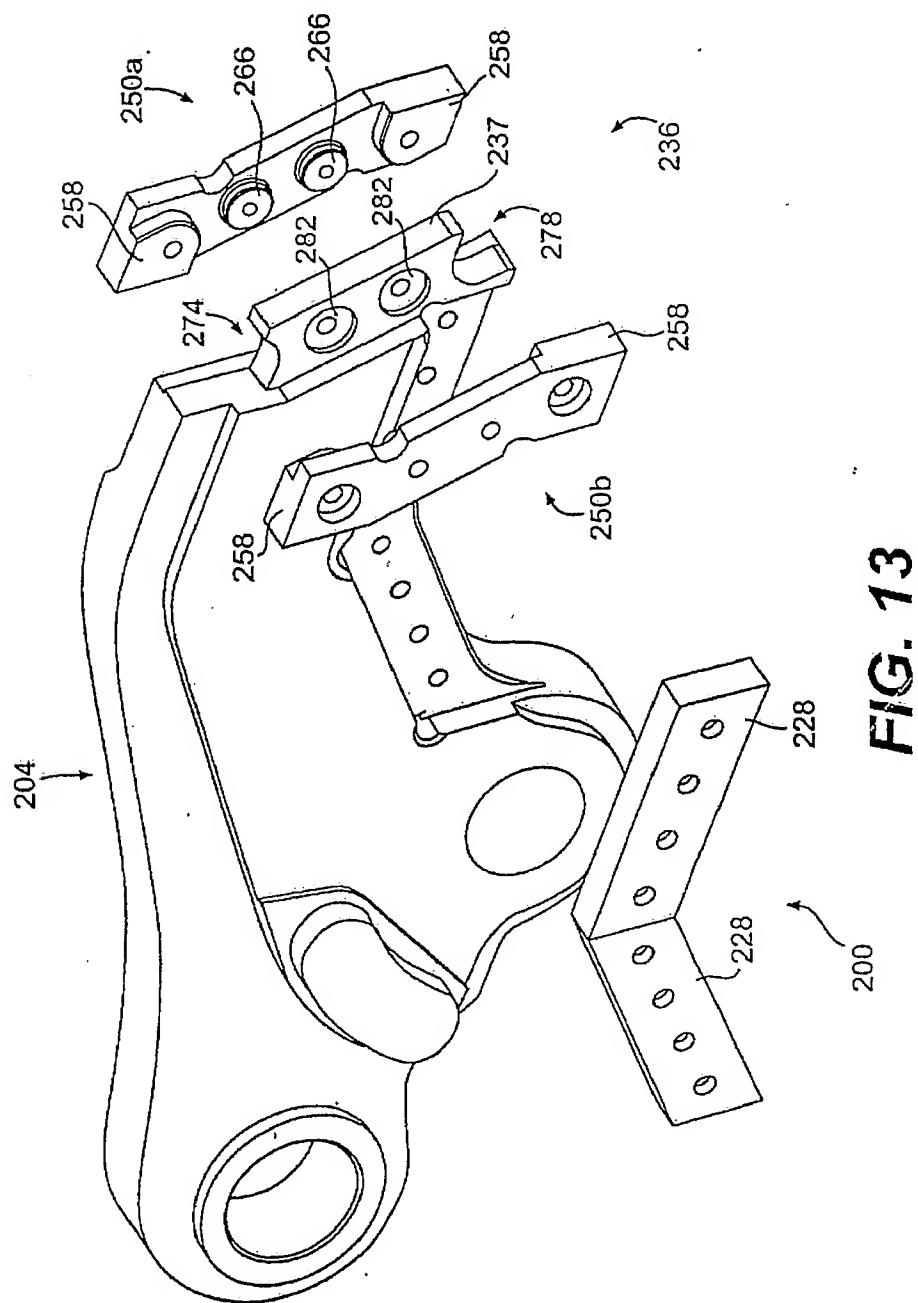
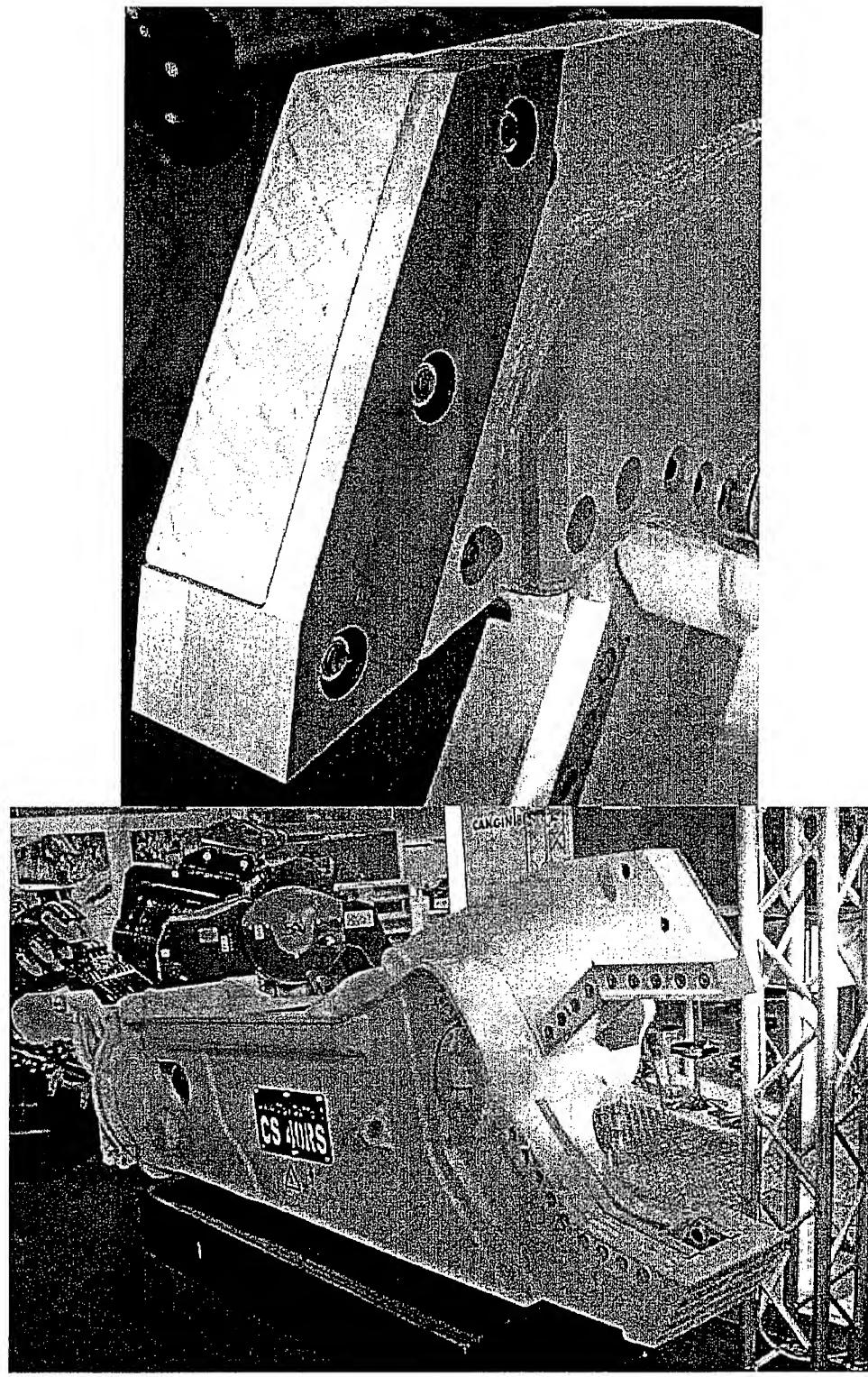


FIG. 13

Exhibit F



Trevi Benne Shears With Indexable Piercing Tip

Exhibit G

Pillsbury
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June 13, 2006

Jack S. Barufka
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VIA AIR MAIL AND FACSIMILE [39 0444 861182]

Luca Vaccaro, President
Trevi Benne Srl
Via A. Volta, 5
36025 Noventa Vicentina (VI)
Italy

Re: Stanley's European Patent Application No. 04781758.0, U.S. Patent Application No. 10/697,554, and European Unregistered Design Right

Dear Mr. Vaccaro:

Our firm represents The Stanley Works ("Stanley"), owner of: a European Community Unregistered Design Right in Stanley's MSD Saber Series Shears; European Patent Application No. 04781758.0, entitled "Indexable Insert with Integrated Wear Plate and Piercing Tip for Metal Demolition Shears" ("the EPO '758 application"); and U.S. Patent Application Serial No. 10/697,554, entitled "Metal Demolition Shears With Indexable, Integrated Wear Plate/Piercing Tip" ("the U.S. '554 application").

European Unregistered Design Right

Stanley first introduced its MSD Saber Series shears into the European Community in July 2004. The designs of the MSD Saber Saber Series shears are novel and have individual character. Therefore, the designs of the MSD Saber Series shears and the Indexable Piercing Tip Inserts thereof are protected by Community unregistered design right.

As shown in the attached Appendix, it is clear from a comparison of Stanley's designs to Trevi Benne's CS Series shears with indexable piercing tip inserts ("Trevi Benne's CS Series Shears") that the Trevi Benne designs of both the indexable piercing tips and the shears as a whole do not create on an informed user a different overall impression from the corresponding Stanley designs. The designs are so similar that it appears that the Trevi Benne designs are copies of the MSD Saber Series shears. Manufacture and/or importation of Trevi Benne's CS Series Shears would thus constitute infringement of Stanley's Community unregistered design right.

June 13, 2006

Page 2

The EPO '758 Application

The EPO '758 application corresponds to International Application No. PCT/US2004/027140, which published as WO 2005/044493 A1 (copy enclosed). Under 158(1) EPC, this publication takes the place of the publication of the EPO '758 application. The EPO '758 application has not yet been assigned a European publication number. The requirements of Rule 107(1) EPC have been met. EPO form 1200 was filed and the national basic, designation (designating all European patent convention states), and examination fees were paid on April 28, 2006. The European Patent Office, acting as the International Preliminary Examining Authority, issued a favorable International Preliminary Report on Patentability for claims 1-36.

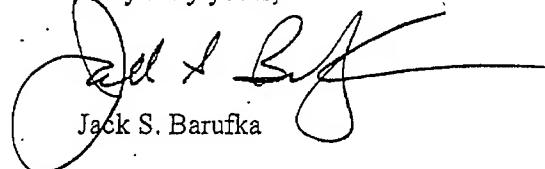
The U.S. '554 Application

The U.S. '554 application published as U.S. Patent Application Publication No. 2005/0091852 A1 (copy enclosed). Under 35 U.S.C. § 154(d), Stanley hereby gives actual notice of the U.S. '554 application. Stanley believes that several, if not all of these published claims will be granted in their published form. For example, the U.S. Patent and Trademark Office has already found that as-published claims 12 and 21 are allowable.

It has recently come to Stanley's attention that Trevi Benne's CS Series Shears are clearly covered by multiple claims of the U.S. '554 application, including at least claims 12 and 21. The anticipated grant of these claims into a U.S. patent will subject Trevi Benne to pre-grant damages as a result of any U.S. infringement of the U.S. '554 application.

Stanley would appreciate an indication of Trevi Benne's future intentions in the U.S. and Europe with respect to its CS Series Shears within ten (10) days of this letter.

Very truly yours,



Jack S. Barufka

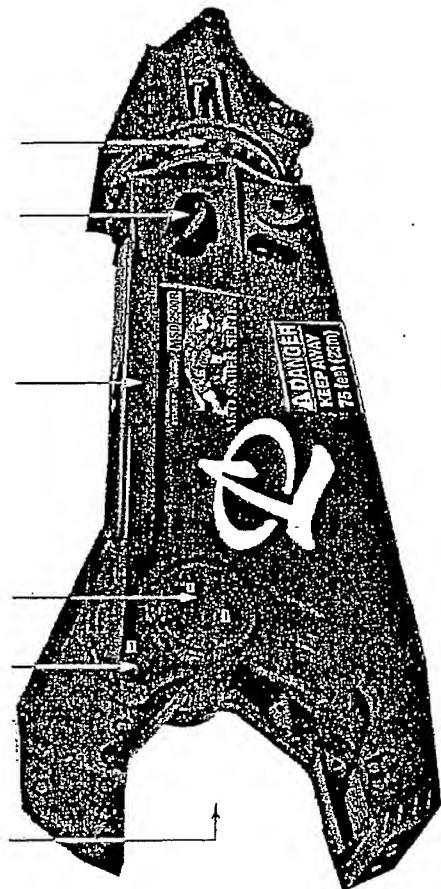
Cc: Michele Botton, Procurat (via airmail and facsimile)
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June 13, 2006
Page 3

Enclosures: U.S. Patent Application Publication No. 2005/0091852 A1
International Publication No. WO 2005/044493
Appendix

June 13, 2006
Page 4

APPENDIX: Comparison of Stanley's MSD Saber Series Shears to Trevi Benne's CS Series Shears



Stanley's MSD Saber Series Shears



Trevi Benne's CS Series Shears



Stanley's MSD Saber Piercing Tip



Trevi Benne's CS Series Piercing Tip

Exhibit H

Avv. Ugo Dal Lago
 Avv. Mauro Contin
 Avv. Fabrizio Ladeserto
 Avv. Pio Serafin
 Avv. Kaniero Bordon
 Avv. Francesco Rucco
 Avv. Donato Totnesello
 Avv. Giulia Levante
 Dott. Renato Mazzoni
 Dott. Alessandra Casarotto
 Dott. Edvige Bressan
 Dott. comun. Fabrizio Contin
Revisore dei conti



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PRIORITY MAIL and by fax
 Vicenza, li 09/08/2006

Mr. Jack S. Barufka
 1650 Tysons Boulevard
 McLean, VA 22102-4859
U.S.A.

Fax 001703 905-2500

Subject : **TREVI BENNE / STANLEY WORKS**

With reference to your fax message August 7, 2006 please find here attached the report (x), in Italian language, wrote by engineer Paolo Piovesana.-

The report conclusions are:

- a. Trevi Benne sells since 2002 in European Community CS series shears which are just similar to those of Stanley, so Trevi Benne didn't committed any forgery of the unregistered ornamental model produced by Stanley.
- b. Trevi Benne is ready to eliminate the reversible plates of CS series shears replacing them by irreversible plates, on condition that Stanley renounce to bring any action against Trevi Benne in order to its requests expressed in the letter June 13, 2006.-

I await to know Stanley Works intents within the end of this month; informing you that till this date I won't be in the office because of summer holidays.

Best regards..

avv. Mauro Contin

(x) attached *ut supra*.

Avv. Ugo Dal Lago
 Avv. Mauro Contín
 Avv. Fabrizio Lodeserto
 Avv. Pio Serafin
 Avv. Raniero Bordon
 Avv. Francesco Rucco
 Avv. Donato Tornesello
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POSTA PRIORITARIA anticipata via fax
 Vicenza, il 09/08/2006

Preg.mo Signore
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 1650Tysons Bolulevard
 Mc Lean, VA 22102-4859
U.S.A.

fax 001703 905-2500

Object : TREVI BENNE / STANLEY WORKS

Rispondo al suo fax del 7 Agosto ed allego alla presente la relazione in italiano (x) redatta dall'ing. Paolo Piovesana.-

Le conclusioni della relazione sono le seguenti.

- a. la Trevi Benne commercializza sin dall'anno 2002 nell'Unione Europea cesoie della serie CS del tutto simili a quelle della Stanley e quindi la Trevi Benne non ha commesso alcuna contraffazione del modello ornamentale non registrato di produzione Stanley;
- b. la Trevi Benne si dichiara disponibile ad eliminare le piastre d'usura reversibili delle cesoie CS sostituendole con piastre non reversibili, a condizione che Stanley accetti di non promuovere alcuna azione giudiziale nei confronti di Trevi Benne per tutte le richieste avanzate nella sua del 13 Giugno 2006.-

Resto in attesa di conoscere le intenzioni della Stanley Works entro la fine del corrente mese comunicandole che sino a quella data sarò assente dallo studio per le vacanze estive.-

Con i migliori saluti.-

avv. Mauro Contín

(x) allegato ut supra.-

B. Present Application (U.S. Pat. App. Pub. No. 2005/0091852 A1)



US 20050091852A1

(19) United States

(12) Patent Application Publication

Johnson et al.

(10) Pub. No.: US 2005/0091852 A1

(43) Pub. Date: May 5, 2005

(54) METAL DEMOLITION SHEARS WITH
INDEXABLE, INTEGRATED WEAR
PLATE/PIERCING TIP

(52) U.S. Cl. 30/134

(76) Inventors: Karl Johnson, Duluth, MN (US);
Louis Maggio, Brewster, NY (US);
Clayton Sederberg, Duluth, MN (US)

(57)

ABSTRACT

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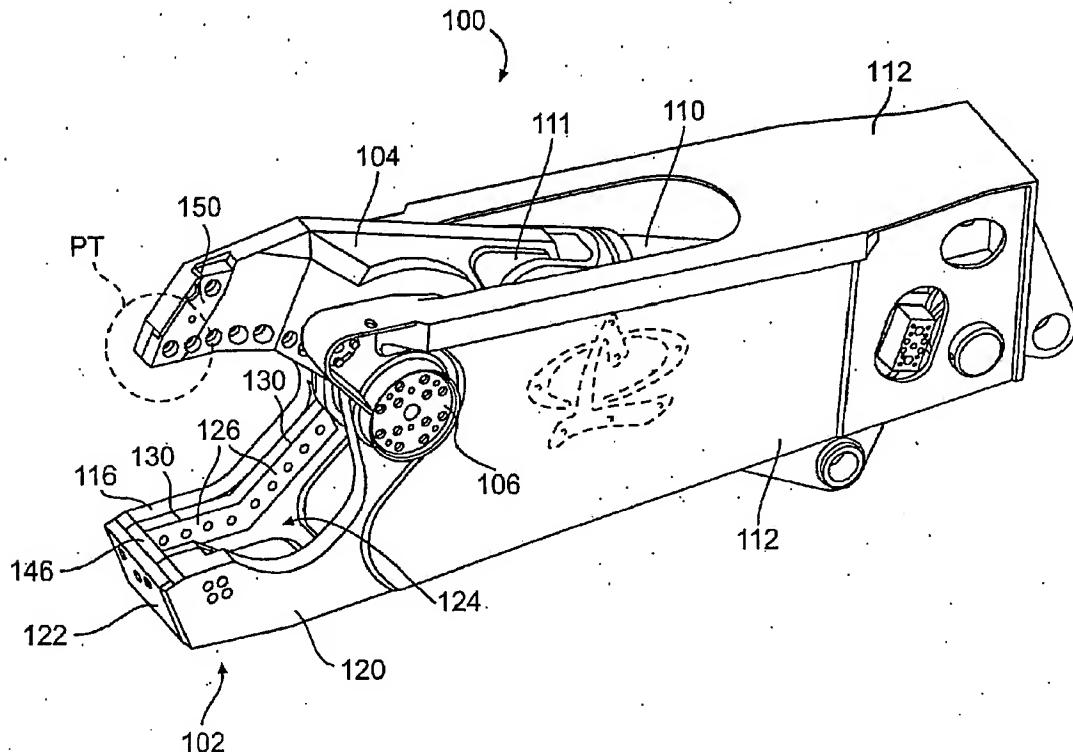
(21) Appl. No.: 10/697,554

(22) Filed: Oct. 31, 2003

Publication Classification

(51) Int. Cl.⁷ B26B 1/00

The invention features an indexable wear plate/piercing tip insert that is configured to be removably and repositionably attached to the front, nose portion of the upper, movable jaw of a metal demolition shears. The insert functions as both a wear plate and a piercing tip and is indexable in that a non-worn or less worn portion of the wear surface of the wear plate portion of the insert, and non-worn shearing and piercing edges of the piercing tip portion of the insert, can be presented simultaneously simply by rotating the insert 180° and reattaching it to the nose portion of the upper, movable jaw of a metal demolition shears.



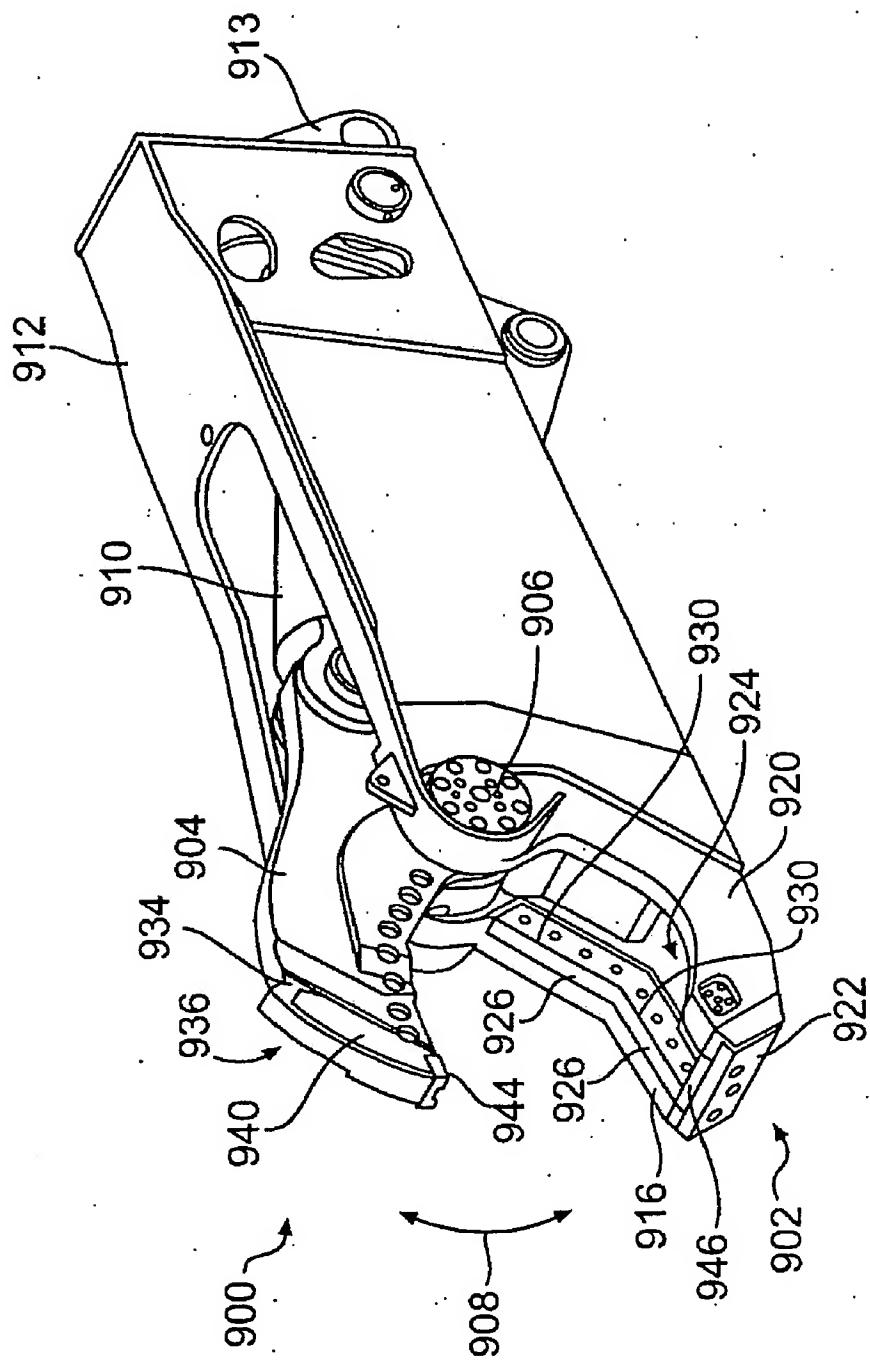


FIG. 1
PRIOR ART

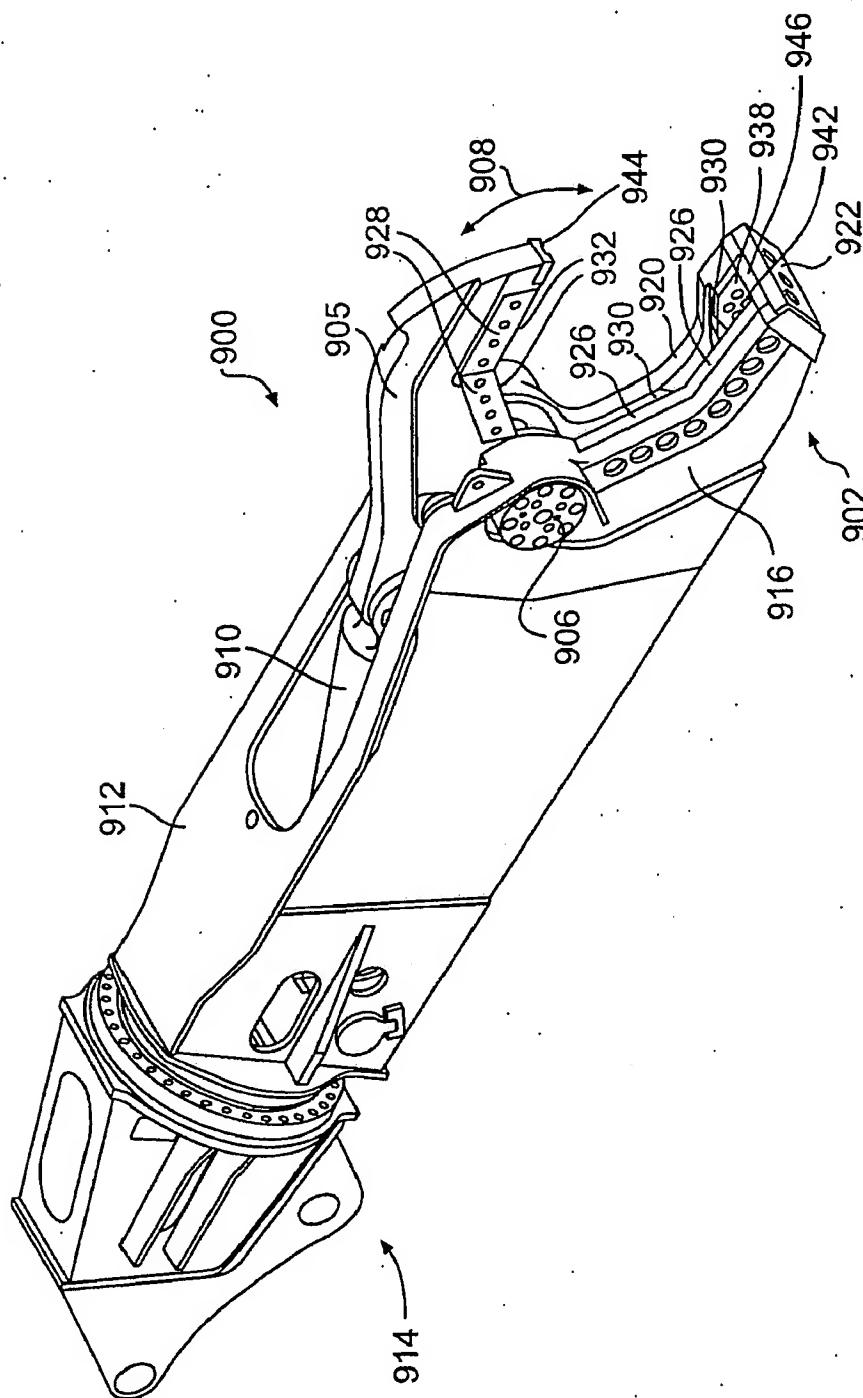


FIG. 2
PRIOR ART

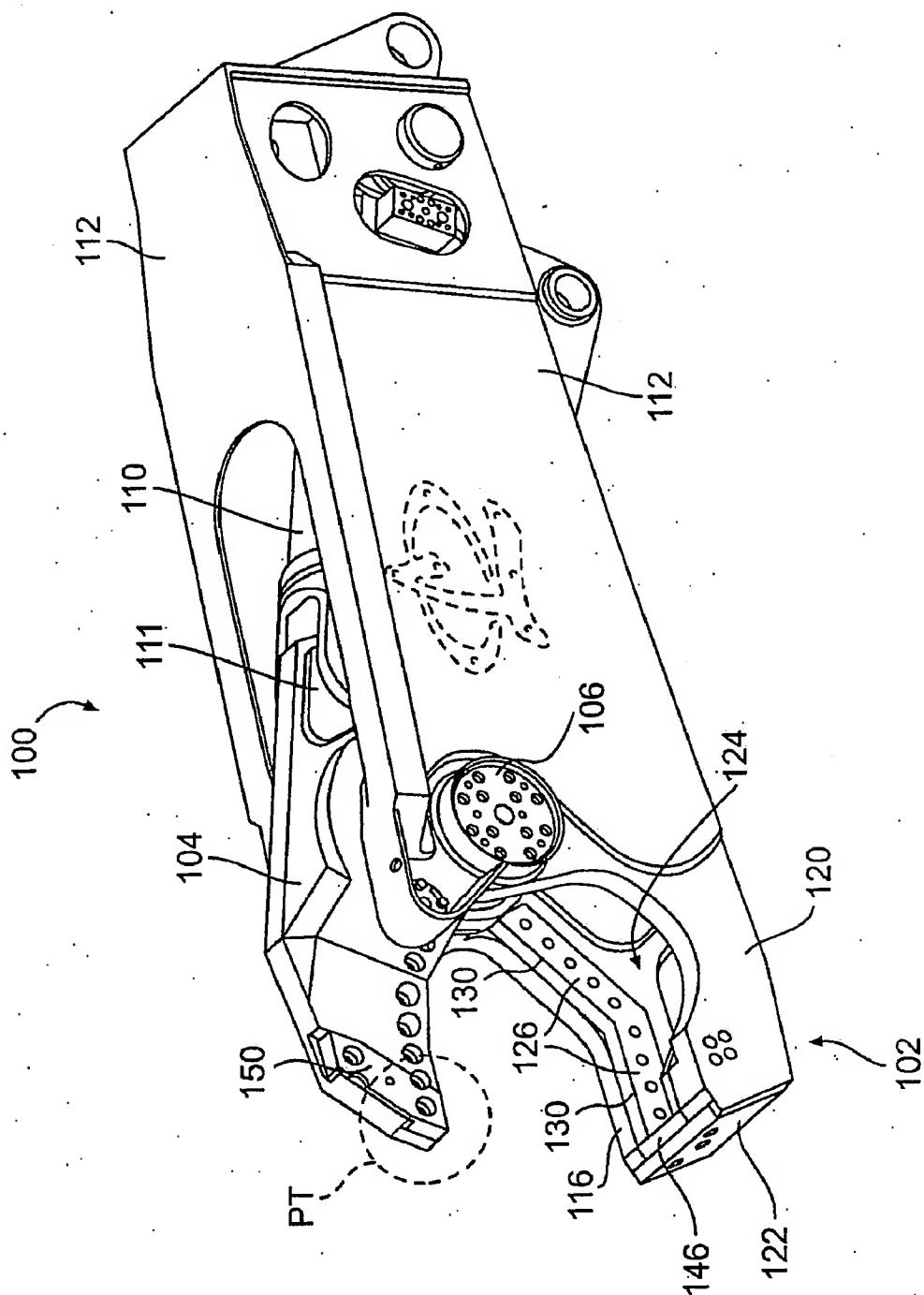
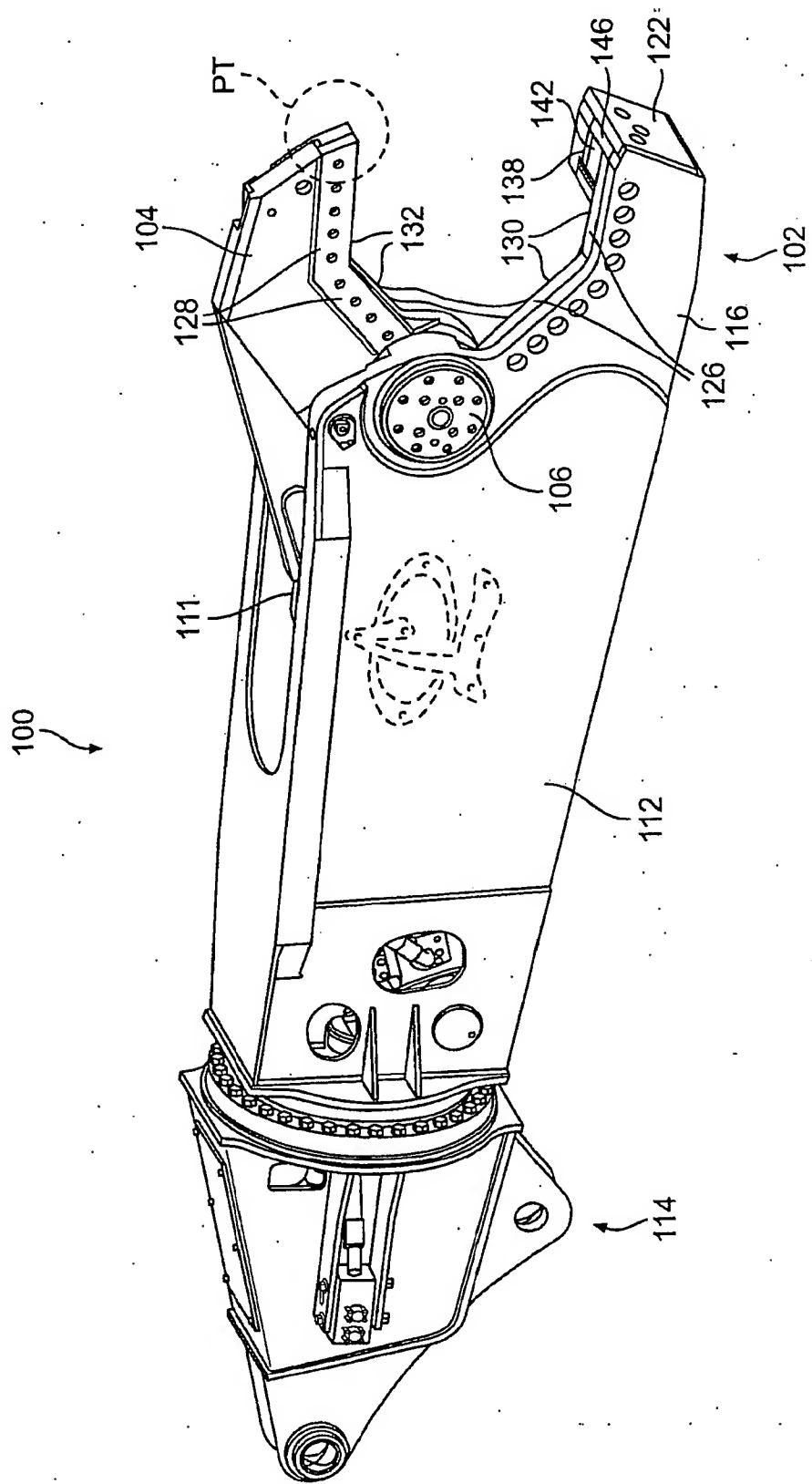


FIG. 3

**FIG. 4**

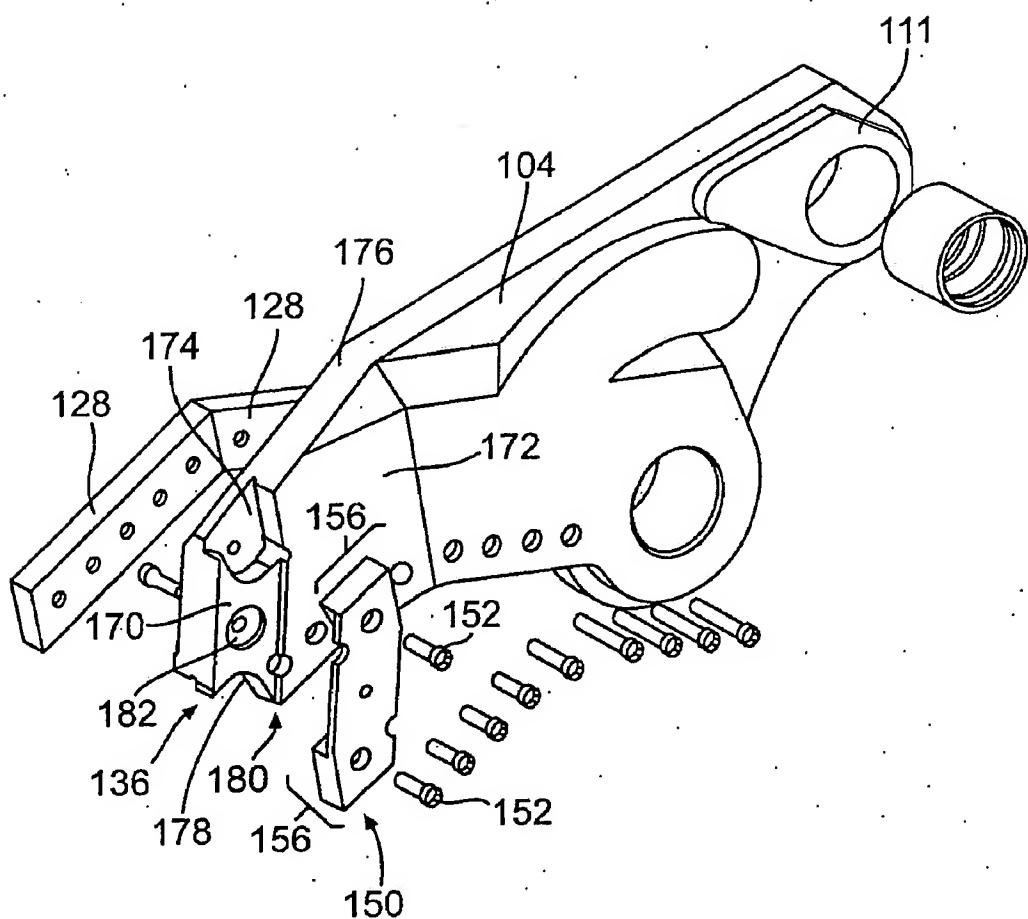
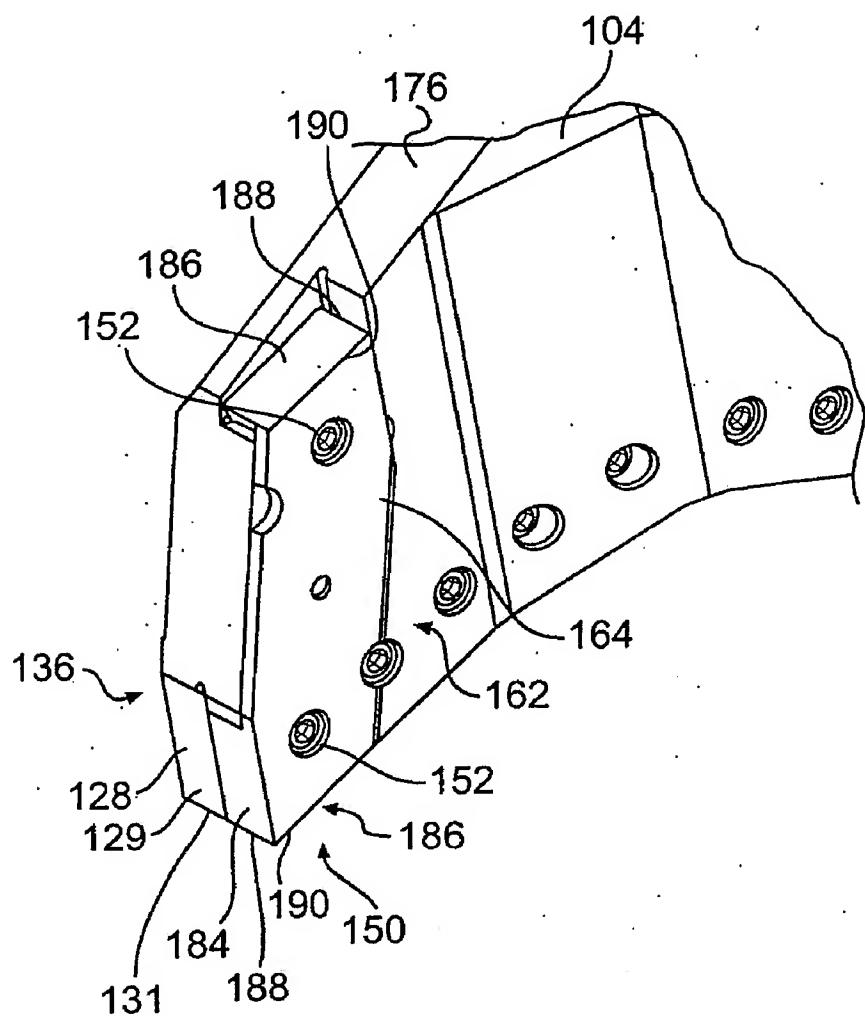


FIG. 5

**FIG. 6**

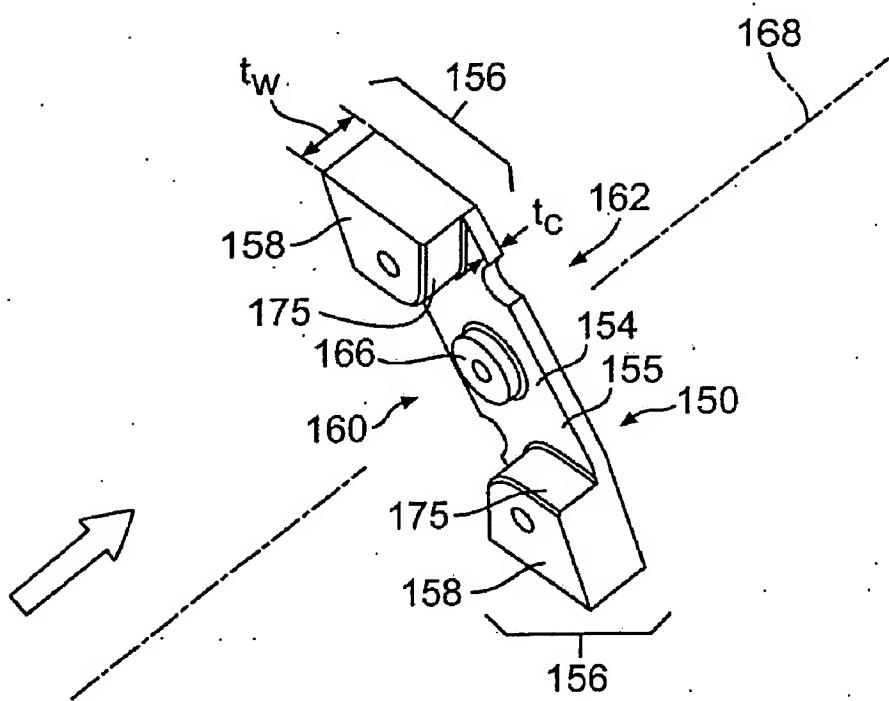


FIG. 7

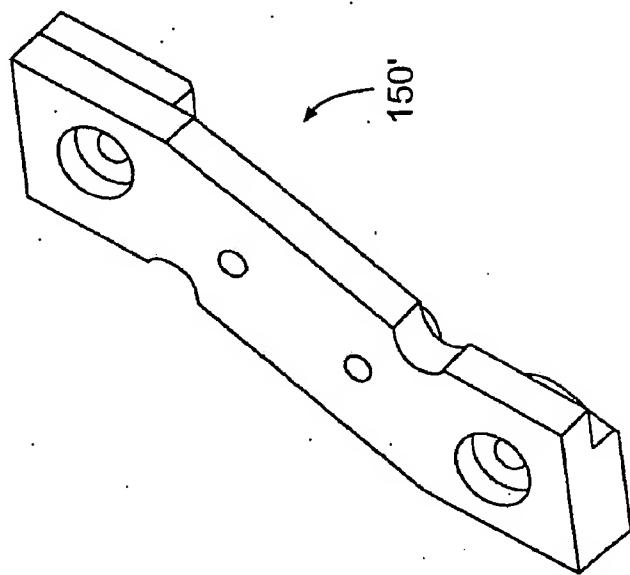


FIG. 8b

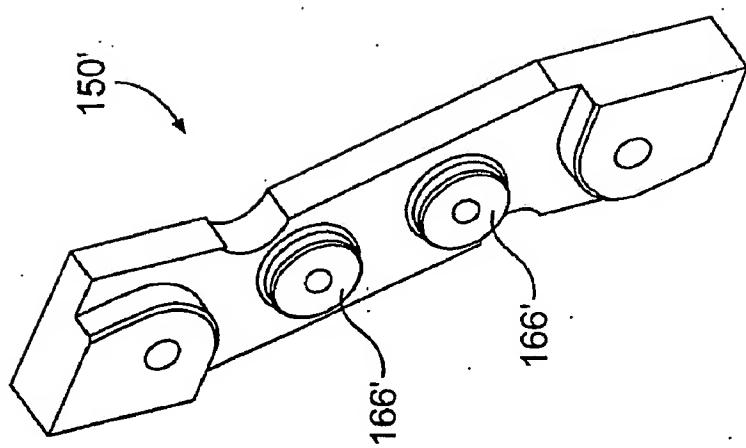


FIG. 8a

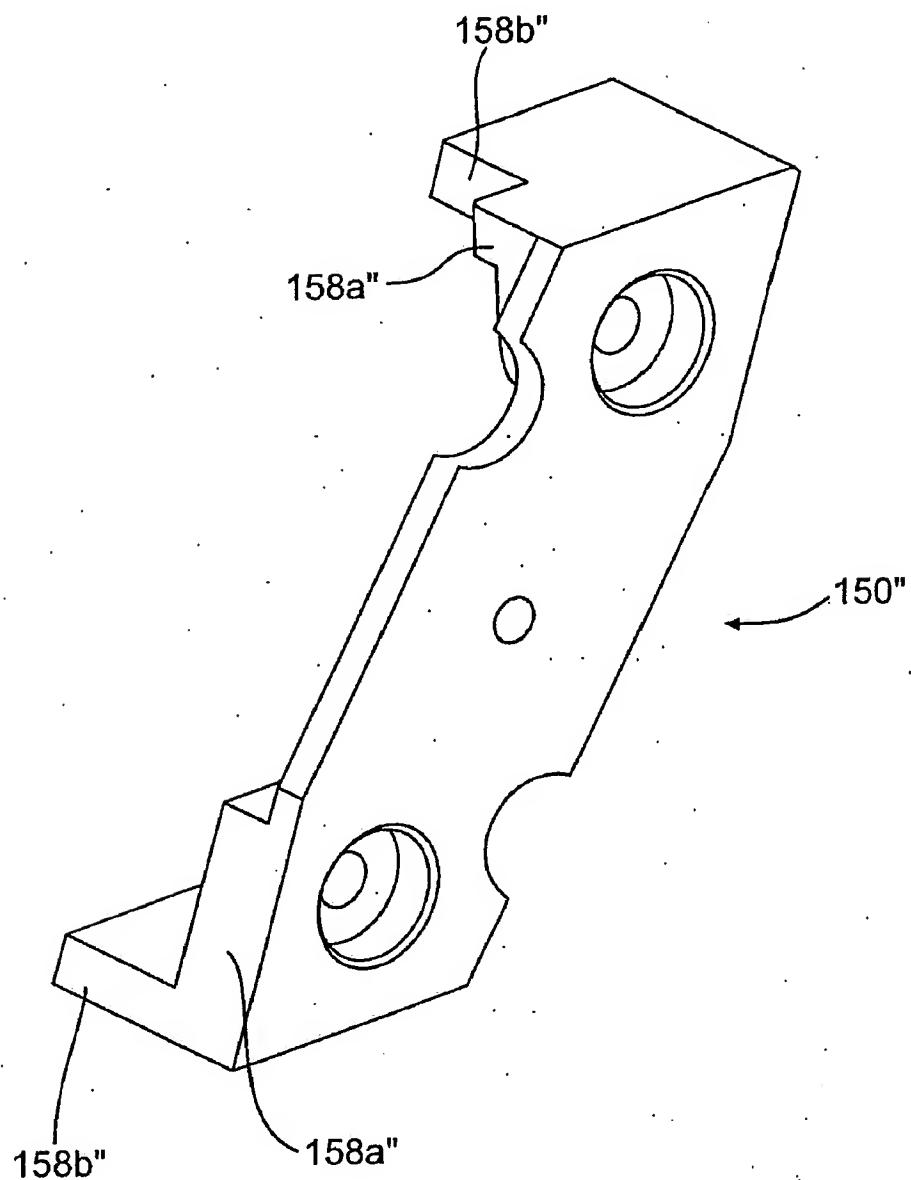


FIG. 9

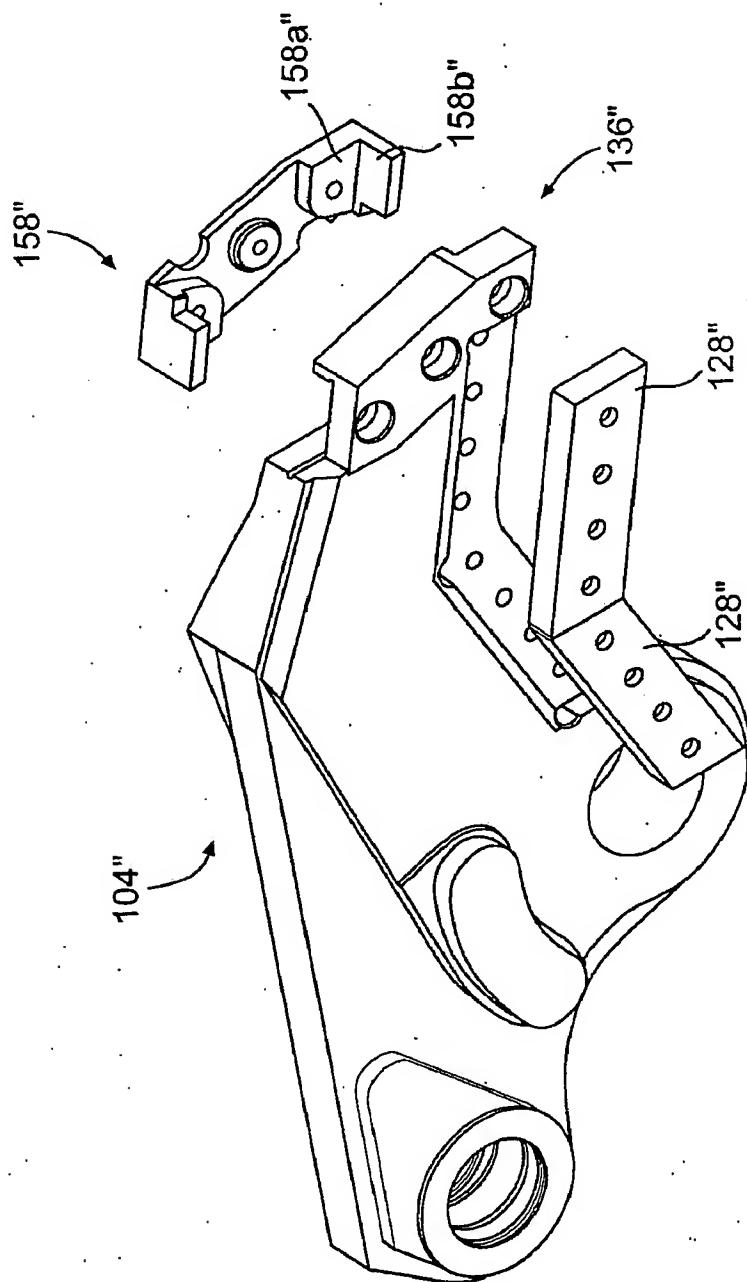


FIG. 10

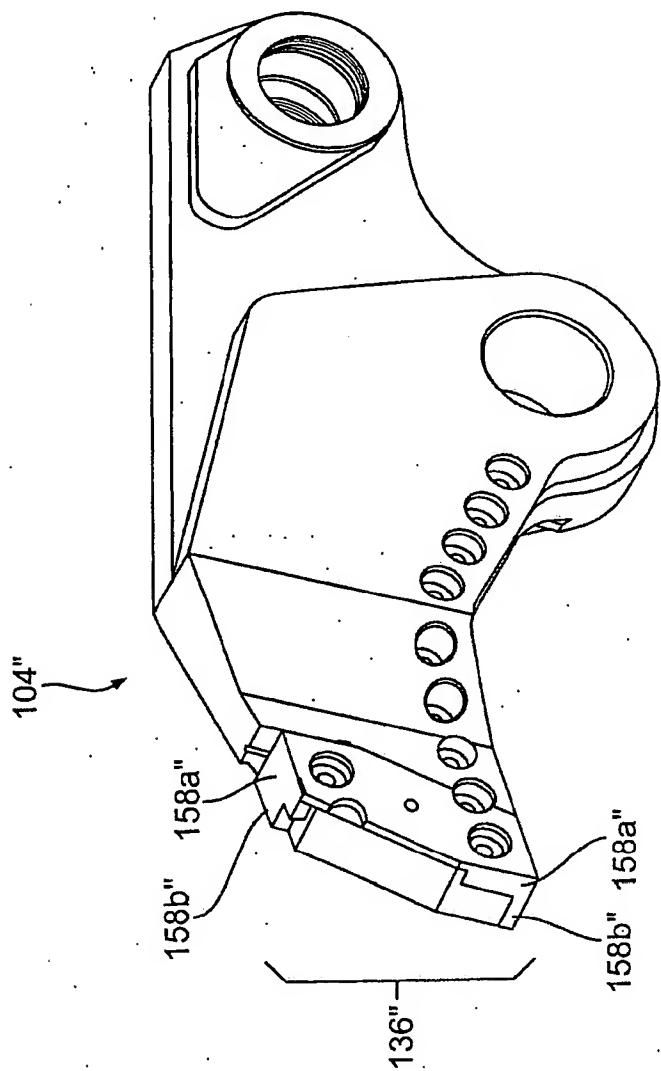


FIG. 11

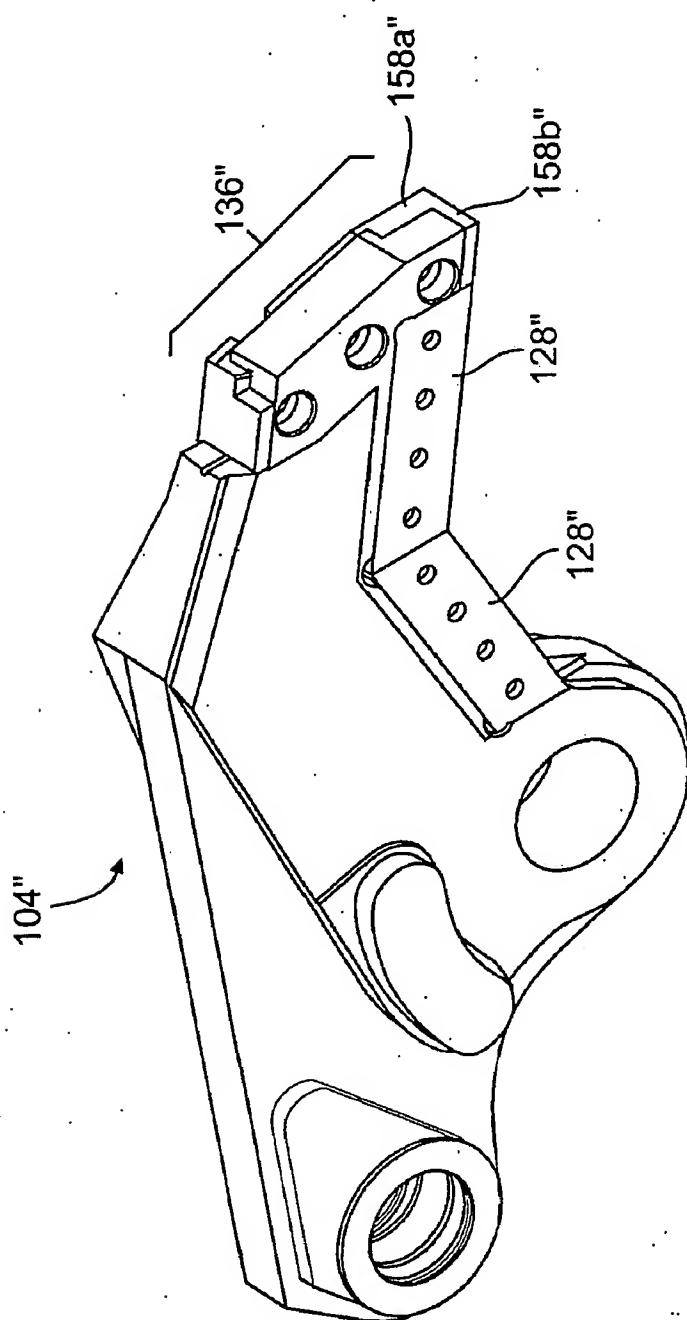


FIG. 12

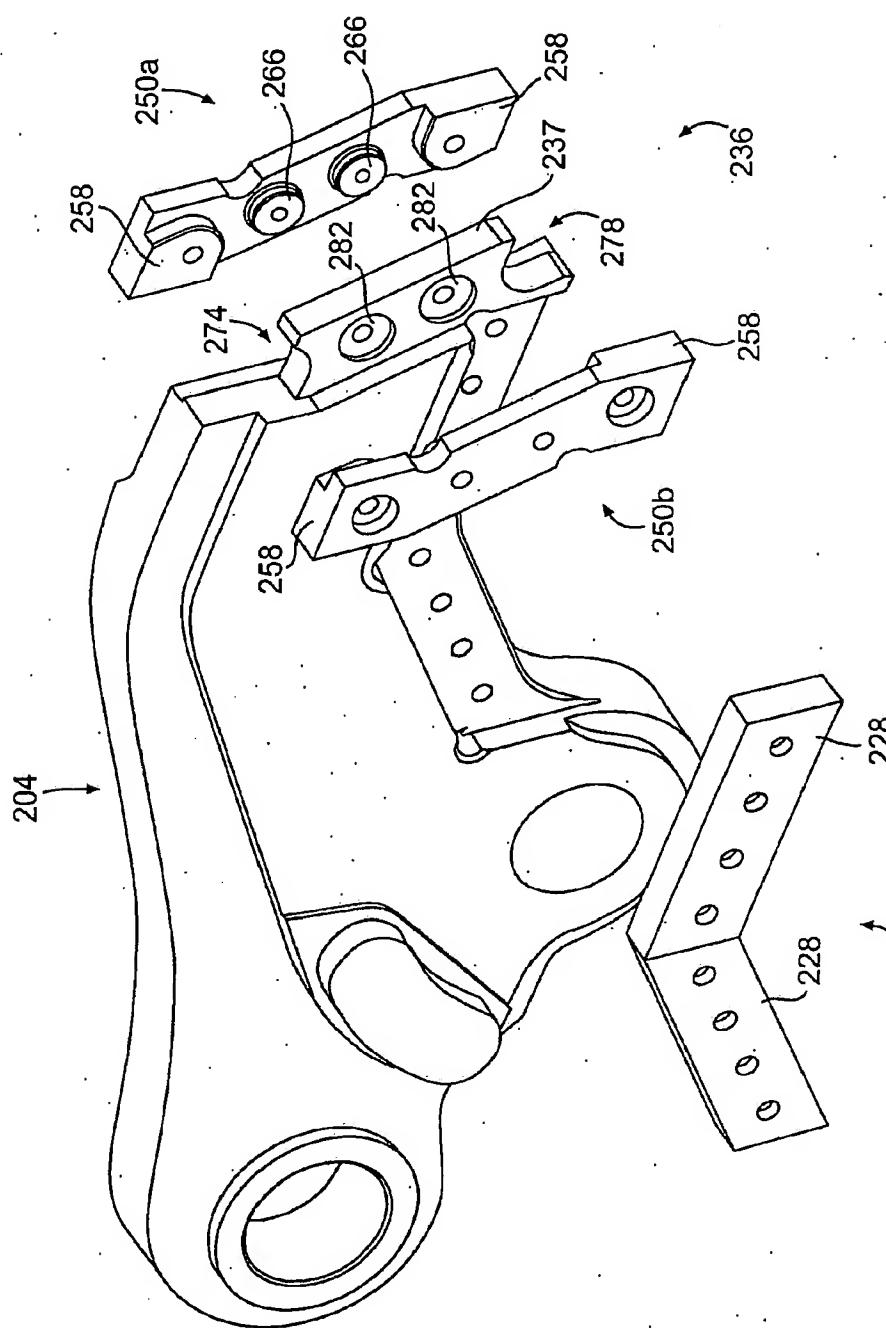


FIG. 13

METAL DEMOLITION SHEARS WITH INDEXABLE, INTEGRATED WEAR PLATE/PIERCING TIP

FIELD OF THE INVENTION

[0001] The invention relates to metal demolition shears. More particularly, the invention relates to the cutting/piercing elements thereof.

BACKGROUND OF THE INVENTION

[0002] A conventional configuration for a metal demolition shears 900 as known in the prior art is illustrated in FIGS. 1 and 2. The shears 900 are configured to be attached to the boom structure of, for example, excavating or earth-moving excavation equipment such as that made by Caterpillar, Komatsu, Hitachi, Kobelco, etc. The shears 900 include a lower, fixed or stationary jaw 902 and an upper, movable jaw 904. The upper, movable jaw 904 is pivotally mounted by means of pivot structure 906, which includes, for example, a main shaft, tie rod, rotation bearings and thrust bearing, end caps, and fasteners so as to pivot relative to the lower fixed or stationary jaw 902, as illustrated by double-headed arrow 908. Piston member 910 articulates (drives) the upper, movable jaw 904 for such pivoting movement. The stationary jaw 902 is mounted into a stick weldment structure 912 that supports the piston member 910 and the pivoting upper jaw 904, and the stick weldment structure 912 is mated to the boom of the machinery by means of a fixed mounting bracket 913 (FIG. 1) or a rotational mounting adapter 914 (shown in FIG. 2) and rotational drive system (not shown in FIG. 1).

[0003] The lower, fixed jaw 902 includes a fixed blade member 916 and a guide member 920. The guide blade member 920 is laterally spaced from the fixed blade member 916 and extends generally parallel to the fixed blade member 916. A cross-member 922 extends between and is connected to the endmost portions of the fixed blade member 916 and the guide member 920. Together, the fixed blade member 916, guide member 920, and cross-member 922 define a slot 924 into which the upper, movable jaw 904 moves during operation of the shears 900.

[0004] The shears 900 includes a number of hardened metal inserts that provide various cutting, piercing, or load-supporting edges and surfaces. In particular, the lower, fixed jaw 902 has a pair of hardened steel blade insert members 926, and the upper, movable jaw 904 has a pair of hardened steel insert members 928. The blade insert members 926 and 928 fit within correspondingly configured recesses or seating surfaces formed in the lower and upper jaws 902 and 904, respectively, and are secured therein, e.g., by bolts. As the shears 900 is operated and the upper, movable jaw 904 is pivoted closed relative to the lower, fixed jaw 902, the blade insert members 928 in the upper, movable jaw 904 move past the blade insert members 926 in the lower, fixed jaw 902, and the cutting edges 930 and 932 of the lower and upper blade insert members 926, 928, respectively, coact to shear or cut a workpiece such as I-beams, pipes, scrap sheet metal, etc. held between the jaws of the shears. As disclosed, for example, in U.S. Pat. No. 5,992,023, the blade insert members may be indexable, meaning that they can be reoriented and repositioned to present new or fresh cutting edges as the cutting edges 930, 932 become worn.

[0005] As the upper, movable jaw 904 pivots downward to shear a workpiece between the steel blade insert members 926 and 928, the workpiece tends to force the upper, movable jaw 904 laterally away from the fixed blade member 916 of the lower, fixed jaw 902. The guide member 920 limits or constrains such lateral deflection of the upper, movable jaw 904. As a result, as the movable jaw 904 pivots downward into the slot 924, the lateral surface 934 of the nose portion 936 of the movable jaw 904 bears against inner-facing surface 938 of the guide member 920. Therefore, a hardened steel wear plate 940 is customarily secured to the lateral surface 934 of the nose portion 936, and a hardened steel wear insert 942 is secured to the inner-facing surface 938 of the guide member 920.

[0006] In addition to the blade insert members 926, 928, wear plate 940, and wear insert 942, a shears 900 conventionally has a hardened steel piercing tip 944 that is secured, e.g., by welding to a lower surface of the nose portion 936 at a forwardmost portion thereof. A hardened steel cross blade insert 946 is secured within a correspondingly shaped recess in the cross member 922 and cooperates with and/or provides a cutting surface against which the piercing tip 944 engages when the shears 900 is being used to pierce holes through larger, generally flattened pieces of scrap metal.

[0007] Customarily, the various cutting, supporting, piercing, and/or wear elements described above (the blade insert members 926, 928, the wear plate 940, the wear insert 942, the piercing tip 944, and the cross blade insert 946) are provided as individual, separate components.

BRIEF SUMMARY OF THE INVENTION

[0008] The present invention features an indexable wear plate/piercing tip insert that is configured to be removably and repositionably attached to the front, nose portion of the upper, movable jaw of a metal demolition shears. The insert functions as both a wear plate and a piercing tip and is indexable in that a non-worn or less worn portion of the wear surface of the wear plate portion of the insert and non-worn shearing and piercing edges of the piercing tip portion of the insert can be presented simultaneously simply by rotating the insert 180° and reattaching it to the nose portion of the upper, movable jaw of a metal demolition shears. This configuration simplifies maintenance of the shears and reduces the number of different parts that need to be kept in inventory, thus reducing operational costs. Additionally, because the wear plate/piercing tip insert is configured to be removable and repositionable, it is not welded onto the upper jaw or weldment. Therefore, an additional welding step is eliminated as a result of the bolt-on configuration of the wear plate/piercing tip of the invention.

[0009] Thus, according to a first aspect, the invention features an indexable wear plate/piercing tip insert that is configured to be attached at a front, nose portion of a correspondingly configured movable jaw of a metal demolition shears. The wear plate/piercing tip insert has a body portion, a surface of which provides a wear surface, and at least a pair of laterally extending or protruding tip portions that provide multiple piercing tips for the movable jaw. The geometric configuration of the wear plate/piercing tip insert is essentially the same in a first position and a second position, the second position being a position in which the wear plate/piercing tip insert is rotated about a pivot axis

passing centrally through the wear plate/piercing tip insert. As a result, a non-worn or less worn portion of the wear surface of the insert and non-worn or less worn shearing and piercing edges of the insert can be presented simultaneously for the metal demolition shear by rotating the wear plate/piercing tip insert about its pivot axis, from the first position to the second position, and reseating the wear plate/piercing tip insert on the movable jaw.

[0010] According to one embodiment of the wear plate/piercing tip insert, the second position is a position in which the wear plate/piercing tip insert is rotated by 180° about its pivot axis. Additionally, the wear plate/piercing tip insert may have shearing edges on each tip portion that are coplanar with and that form an edge of the wear surface. The wear plate/piercing tip may also have at least one support boss that is located between the metal tip portions and that extends laterally from a central region of the wear plate/piercing tip to provide bearing support to help prevent the wear plate/piercing tip insert from being sheared off of the movable jaw during cutting and retracting operation of the shears on which the wear plate/piercing insert is mounted.

[0011] According to a second aspect, the invention features a metal demolition shears having an indexable wear plate/piercing tip insert, generally as per the first aspect of the invention. The shears has a fixed jaw and a movable jaw, with the indexable wear plate/piercing tip insert being seated on the movable jaw at a forward, nose portion of the movable jaw.

[0012] According to an embodiment of the invention, the shears has a fixed jaw including a fixed blade member with a first cutting/shearing edge extending along it and a guide member spaced from and extending in generally parallel relation to the fixed blade member. The shears also has a movable jaw that pivots relative to the fixed jaw, with a second cutting/shearing edge extending along the movable jaw. An indexable wear plate/piercing tip insert is attached at a front, nose portion of the movable jaw.

[0013] The front, nose portion of the movable jaw has a pocket or cavity into which the tip portions of the wear plate/piercing tip insert each fit, with one of the tip portions being fitted in the pocket or cavity when positioned in a non-operative position. The pocket or cavity has contours that match surface contours of the tip portions. Additionally, the front, nose portion of the movable jaw has a notch formed in an underside thereof, with the notch having surface contours that match surface contours of each of the tip portions. The tip portion that is positioned in an operative position engages with the notch.

[0014] The second cutting/shearing edge may be provided by at least one blade insert member, with the blade insert member extending all the way to a forwardmost portion of the front, nose portion of the movable jaw. An inner-facing surface of one of the tip portions that is in an operative position may engage with an inner-facing surface of the blade insert, such that a forward portion of the blade insert and a forward, lower portion of the tip portion in the operative position together define a piercing tip portion of the movable jaw.

[0015] According to a third aspect, the invention features a jaw member for use in a metal demolition shears (for example, but not necessarily, the upper, movable jaw mem-

ber). The jaw member has an indexable wear plate/piercing tip insert, generally as per the first aspect of the invention.

[0016] According to a fourth aspect, the invention features a jaw member for use in a metal demolition shears (for example, but not necessarily, the upper, movable jaw member). The jaw member is configured to receive an indexable wear plate/piercing tip insert, generally as per the first aspect of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] These and other aspects and features of the invention will be described in greater detail below in connection with the drawings, in which:

[0018] FIGS. 1 and 2 are perspective views, from different angles, of a metal demolition shears according to the prior art;

[0019] FIGS. 3 and 4 are perspective views, from different angles, showing a metal demolition shears according to the invention;

[0020] FIG. 5 is an exploded, perspective view showing the upper, movable jaw of a metal demolition shears according to the invention, as illustrated in FIGS. 3 and 4;

[0021] FIG. 6 is a perspective view showing a portion of the upper, movable jaw illustrated in FIGS. 3-5;

[0022] FIG. 7 is a perspective view illustrating an indexable wear plate/piercing tip according to the invention;

[0023] FIGS. 8a and 8b are perspective views from opposite sides of an alternate embodiment of an indexable wear plate/piercing tip according to the invention;

[0024] FIG. 9 is a perspective view showing another alternate embodiment of an indexable wear plate/piercing tip according to the invention;

[0025] FIG. 10 is an exploded, perspective view showing an alternate embodiment of the upper, movable jaw of a metal demolition shears according to the invention, employing the indexable wear plate/piercing tip illustrated in FIG. 9;

[0026] FIGS. 11 and 12 are perspective views from opposite sides showing the upper, movable jaw of a metal demolition shears illustrated in FIG. 10, as assembled; and

[0027] FIG. 13 is an exploded, perspective view showing another alternate embodiment of the upper, movable jaw of a metal demolition shears according to the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0028] A shears 100 according to the invention is illustrated in FIGS. 3 and 4, with an indexable wear plate/piercing tip insert 150 according to the invention being illustrated in greater detail in FIGS. 5-7. Like the prior art shears 900 illustrated in FIGS. 1 and 2, the shears 100 includes a lower, fixed jaw 102 and an upper, movable jaw 104 that is mounted by pivot structure 106 so as to be able to pivot relative to the lower, fixed jaw 102. A piston member 110 is pivotally attached to a piston connection point 111 and extends and retracts to drive the upper, movable jaw 104 to open and close the shears 100. The lower and upper jaws 102, 104, pivot structure 106, and

piston member 110 are all mounted within or supported by a stick weldment structure 112, which is mounted by means of a rotational fitting or adapter (not shown) to the boom or dipstick structure of an excavator or other heavy-duty equipment.

[0029] The lower, fixed jaw 102 includes a fixed blade member 116 and a guide member 120 that is laterally spaced from and extends generally parallel to the fixed blade member 116. A cross member 122 is attached (e.g., welded) to the endmost portions of the blade member 116 and guide member 120, with a hardened steel cross member insert 146 secured within a correspondingly shaped recess on the inner-facing side of the cross member 122. Together, the fixed blade member 116, guide member 120, and cross member 122 form or define a slot 124 into which the upper, movable jaw 104 moves as it pivots to close the shears 100 during shearing operation of the shears 100.

[0030] A pair of indexable hardened steel blade insert members 126 are removably attached (e.g., by bolts) to the fixed blade member 116, and a pair of indexable hardened steel blade insert members 128 are removably attached (e.g., by bolts) to the upper, movable jaw 104. The blade insert members 126, 128 provide cutting edges 130, 132, respectively. To this extent, the construction of the shears 100 according to the invention is generally the same as that of the shears 900 explained above as representative of the prior art.

[0031] As further illustrated in FIGS. 3 and 4, and as illustrated in greater detail in FIGS. 5-7, an integral, indexable, wear plate/piercing tip insert 150 is removably secured to the forward, nose portion 136 of the upper, movable jaw 104 by means, for example, of cap screws or plow bolts 152. The wear plate/piercing tip insert 150 is preferably made from hardened, wear-resistant tool steel and has a central region 154 and ends 156. A tip portion 158 protrudes laterally from each end 156 of the wear plate/piercing tip insert 150, with the tip portions 158 both protruding toward the same side 160 of the wear plate/piercing tip insert 150. The opposite side 162 of the wear plate/piercing tip insert 150, on the other hand, has a generally planar surface 164. As described in greater detail below, the planar surface 164 provides a wear surface for the wear plate/piercing tip insert 150.

[0032] In addition to the tip portions 158, a central, circular boss 166 (or similar dowel-type insert) also extends laterally from the central region of the wear plate/piercing tip insert 150, toward the side 160 of the wear plate/piercing tip insert 150. The boss 166 (or dowel) seats in a corresponding bore or depression 182 (described further below) in the movable, upper jaw 104 to provide support and bearing resistance against the forces to which the wear plate/piercing tip 150 is subjected during both cutting and retraction movement of the upper, movable jaw 104, as well as to transfer those loads to the main, structural body of the upper jaw 104. Depending on the size of the loads to which the wear plate/piercing tip will be subjected, it may be desirable to provide two or more such bosses 166 on a wear plate/piercing tip insert 150, as illustrated in FIGS. 8a and 8b.

[0033] The wear plate/piercing tip insert 150 is "pivotally symmetric." In other words, the geometric configuration of the wear plate/piercing tip insert 150 is essentially the same when the wear plate/piercing tip insert 150 is rotated by 180°

around pivot axis 168. Pivot axis 168 passes centrally through the wear plate/piercing tip insert 150, e.g., through the center of the circular boss 166 when just one is provided or with the bosses arranged symmetrically with respect to the pivot axis 168 when multiple bosses are provided, and pivot axis 168 extends normal to the planar surface 164. In particular, the profile of the wear plate/piercing tip insert 150 as seen looking along the pivot axis 168 in the direction of the arrow in FIG. 7, including the contours of and the extent to which the tip portions 158 protrude toward the side 160, will be essentially the same when the wear plate/piercing tip insert 150 is rotated by 180° about the pivot axis 168. By "essentially the same," it is meant that deviations such as small bumps, ridges, cavities, differences in thickness, etc., that may be present but that do not prevent the wear plate/piercing tip insert 150 from being secured to the nose portion 136 in multiple orientations are deemed not to destroy the "pivotally symmetry" of the wear plate/piercing tip insert 150.

[0034] Like the boss 166 (or bosses or dowel(s)), the tip portions 158 provide bearing support for the wear plate/piercing tip insert 150 during cutting and retraction operation of the movable jaw 104. Therefore, the contours of the tip portions 158 are preferably configured to optimize load transfer into the structural sections of the upper, movable jaw 104.

[0035] As illustrated in FIG. 5, the nose portion 136 of the upper, movable jaw 104 has a surface 170 that is located on the side of the movable jaw 104 opposite to the side on which the blade insert members 128 are mounted, and that surface 170 is recessed slightly relative to surface 172 of the upper, movable jaw 104. The surface 170 is recessed by an amount that is the same as the thickness t_C (FIG. 7) of the central region 154 of the wear plate/piercing tip insert 150.

[0036] The nose portion 136 also has a pocket or cavity 174 formed near an upper edge 176 thereof. The pocket or cavity 174 extends laterally, from the surface 170 toward the opposite side of the upper, movable jaw 104 to which the blade insert members 128 are attached, by an amount that is equal to the thickness t_W (FIG. 7) of the tip portions 158 of the wear plate/piercing tip insert 150 (the thickness t_W being equal to the thickness t_C of the central region of the wear plate/piercing tip insert 150 and the amount by which the tip portions 158 protrude laterally relative to the central region 154). The contours of the pocket or cavity 174 match the contours of the surfaces 175 of the laterally extending tip portions 158.

[0037] In addition to the pocket or cavity 174, a cut-out or notch 178 is formed in an underside 180 of the nose portion 136 of the upper, movable jaw 104. The cut-out or notch 178 may extend laterally across the entire width of the nose portion 136. As is the case for the pocket or cavity 174, the contours of the cut-out or notch 178 match the contours of the surfaces 175 of the tip portions 158 of the wear plate/piercing tip insert 150, although only to the extent the surfaces 175 of the tip portions 158 will engage the surfaces of the notch 178 when the wear plate/piercing tip insert 150 is mounted to the nose portion 136 of the movable jaw member 104. In other words, the contours of the notch 178 will be the same as just a portion of the contours of the pocket or cavity 174.

[0038] A circular depression or bore 182 extends laterally from the surface 170 toward the opposite side of the nose

portions 136, to which the blade insert members 128 are attached. The contours of the circular depression 182 match the contours of the central, circular boss 166, and the circular depression 182 extends laterally by an amount that is equal to the height of the central, circular boss 166, i.e., by an amount that is the same as the distance to which the central, circular boss 166 protrudes relative to the central region 154 of the wear plate/piercing tip insert 150. With this configuration, the wear plate/piercing tip insert 150 can be seated securely onto the nose portion 136, with the surface 155 of the central region 154 seating firmly against seating surface 170, one of the tip portions 158 fitting firmly and closely within pocket or cavity 174, a portion of the surface 175 of the other tip portion 158 engaging and mating with the surface of cut-out or notch 178, and the central, circular boss 166 extending into and mating with the circular depression 182. Of course, if multiple bosses (or dowels) are provided, a corresponding number of depressions or bores 182 will also be provided, in a corresponding configuration or arrangement.

[0039] The tip portions 158 of the wear plate/piercing tip insert 150 each have a pair of side surfaces 184 and 186 that are exposed when a given tip portion 158 is in the lower, operative position. The front-facing side surface 184 of the tip portion 158 that is in the lower, operative position is identified in FIG. 6, and the bottom-facing side surface 186 (bottom-facing when the tip portion is in the operative position) is identified in FIG. 6 for the tip portion 158 that is in the upper, non-operative position. The front-facing side surfaces and bottom-facing side surfaces intersect each other along piercing edges 188. Additionally, the bottom-facing side surfaces 186 intersect the planar surface 164 of the wear plate/piercing tip insert 150 along shearing edges 190.

[0040] In the illustrated embodiment of a shears 100 according to the invention, one of the hardened steel blade insert members 128 extends forwardly all the way to the front of the nose portion 136, as illustrated in FIG. 6. In that case, the forward-facing side surfaces 184 are preferably configured to be co-planar with the forward-facing end surfaces 129 of the blade insert members 128 when both the wear plate/piercing tip insert 150 and blade insert members 128 are installed in their respective operative positions on the upper, movable jaw 104. Furthermore, the piercing edges 188 are preferably co-linear with the bottom-facing piercing edge 131 of the forwardmost blade insert member 128 when the wear plate/piercing tip insert 150 and blade insert members 128 are installed in their operative positions on the nose portion 136 of the upper, movable jaw 104.

[0041] Similarly, the bottom-facing side surfaces 186 are preferably configured such that the bottom-facing side surface 186 of the tip portion 158 that is in the lower, operative position is co-planar with a bottom-facing side surface (not visible or labeled) of the forwardmost blade insert member 128. Thus, in this configuration, the tip portion 158 that is in the lower, operative position and the forward portion of the forwardmost blade insert member 128 work together or are combined to form the effective piercing tip region PT, as identified in FIGS. 3 and 4.

[0042] Alternatively, as illustrated in FIGS. 9-12, if the blade insert member 128 does not extend all the way forward to the forwardmost extent of the nose portion 136 of the movable jaw 104", it is preferable for the tip portions

158" of the wear plate/piercing tip inserts 150" to extend laterally, i.e., to have thicknesses tw, sufficient to extend all the way across the width of the nose portion 136" of the upper, movable jaw 104". Although the entirety of the tip portions 158" may extend laterally all the way across the width of the nose portion 136", it is also possible to have just an extension portion 158b" that protrudes from the main portion 158a" of the tip portion 158" that extend all the way across the width of the nose portion 136", as illustrated in FIGS. 9-12.

[0043] Like the prior art shears 900, the shears 100 according to the invention has an inner-facing surface 138 on the guide member 120 and a hardened steel wear insert 142.

[0044] During operation of the shears 100, a workpiece held between the lower, fixed jaw 102 and the upper, movable jaw 104 is cut or sheared by means of the steel blade insert members 126 and 128 as the upper, movable jaw is driven to pivot closed relative to the lower, fixed jaw 102. As the upper, movable jaw closes on the workpiece being sheared, the movable jaw is forced laterally slightly, away from the fixed blade member 116 and toward the guide member 120. As a result, the planar surface 164 of the wear plate/piercing tip insert 150 will bear against and slide along the wear insert 142.

[0045] The metal demolition shears 100 can also be used to cut and demolish generally flattened scrap metal. In that case, if the sheet of scrap metal rests on the lower, fixed jaw 102, the piercing tip portion PT of the nose portion 136 will make initial contact with the scrap metal as the shears are being operated and will pierce its way through the scrap metal workpiece. In that situation, the piercing edge 188 of the tip portion 158 that is in the operative position, along with the bottom-facing piercing edge 131, will operate to help the tip portion of the nose portion 136 pierce its way through the scrap metal workpiece. As the upper, movable jaw 104 continues to close relative to the lower, fixed jaw 102 and the tip portion TP pierces its way through the workpiece, the piercing edge 188, along with the bottom-facing piercing edge 131, will co-act with the cross member insert 146 to cut the metal workpiece in piercing fashion. Additionally, the shearing edge 190 of the tip portion 158 that is in the operative position will cooperate or co-act with the upper, inner-facing edge of the wear insert 142 to cut the flattened metal workpiece, in shearing fashion.

[0046] As a result of continued operation of the shears 100, the various operative edges and surfaces of the wear plate/piercing tip insert 150, namely, the piercing edge 188, the shearing edge 190, and the portion of the planar surface 164 that is disposed in the region of the tip portion 158 that is in the lower, operative position, will become dull, chipped, worn, or otherwise degraded in their functioning capacities. When the various edges and surfaces have become overly worn, a fresh set of piercing and shearing edges and a fresh wear surface portion of the planar surface 164 can be presented simply by removing the cap screws or plow bolts 152, rotating the wear plate/piercing tip insert 150 by 180° around its pivot axis 168, and reinstalling and securing it back to the nose portion 136 of the upper, movable jaw 104 with the cap screws or plow bolts 152.

[0047] In yet another embodiment 200 of a metal demolition shears according to the invention, as illustrated in FIG. 13, two wear plate/shearing tip inserts 250a and 250b

may be used, with one located on either side of the nose portion 236 of the movable upper jaw 204. In addition to each wear plate/shearing tip insert 250a and 250b being longitudinally symmetric, as defined above, the wear plate/shearing tip inserts 250a and 250b are "mirror image symmetric" with respect to each other. In other words, whereas the one wear plate/shearing tip insert 250a angles up and to the right from one end to the other, as viewed straight on when it is attached to the nose portion 236 of the upper, movable jaw 204, the other wear plate/shearing tip insert 250b angles up and to the left from the one end to the other, as viewed straight on when it is attached to the nose portion 236 of the upper, movable jaw 204.

[0048] The nose portion 236 is, itself, configured to receive and seat the wear plate/piercing tip inserts 250a and 250b appropriately, with a "pocket" or "cavity" 274 that extends all the way across the width of the center "keel" portion 237 of the nose portion 236 and a notch or cut-out 278 that also extends all the way across the keel portion 237. (The forward blade insert 228 does not extend all the way forward.) In this embodiment, the two wear plate/piercing tip inserts 250a and 250b are bolted together using cap screws or bolts (not shown) passing through the bosses 266 (which seat within depressions 282 on either side of the keel 237) and protruding tip portions 258. This effectively sandwiches the keel portion between the wear plate/piercing tip inserts.

[0049] As a result, of this configuration, the tip portions 258 provide the entire piercing tip function. Additionally, excellent wear protection is provided on both sides of the nose portion, and the configuration permits indexability of the wear plate/piercing tip inserts on each side of the jaw 204. Finally, although not illustrated, the configuration of the wear plate/piercing tip inserts 250a and 250b may also be such as to permit them to be interchanged from one side of the nose portion 236 to the other.

[0050] The embodiments of the invention described herein are illustrative, and the invention is not deemed to be limited to those specific embodiments. Modifications to the described invention will, of course, occur to those having skill in the art, and such modifications to the disclosed embodiment that are within the spirit of the invention are deemed to be embraced by the following claims.

1. An indexable wear plate/piercing tip insert configured to be attached at a front, nose portion of a correspondingly configured movable jaw of a metal demolition shears, the wear plate/piercing tip insert comprising:

a metal body having a central region and two ends, and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to said central region in the direction of a first side of said body so as to define a piercing tip that extends at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw;

wherein a second side of said body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said second side of said body and a piercing edge disposed

at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable jaw when the wear plate/piercing tip insert is attached to the movable jaw; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface;

whereby a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said wear plate/piercing tip insert on the movable jaw.

2. The wear plate/piercing tip insert of claim 1, wherein said second position is a position in which the wear plate/piercing tip insert is rotated by 180° about said pivot axis.

3. The wear plate/piercing tip insert of claim 1, wherein the shearing edge of each tip portion is coplanar with and forms an edge of said generally planar surface.

4. The wear plate/piercing tip insert of claim 1, further comprising at least one boss or dowel that is located between said metal tip portions and that extends laterally from said central region in the direction of the first side of said body.

5. A metal demolition shears, comprising:

a fixed jaw having a fixed blade member with a first cutting/shearing edge extending therealong and a guide member spaced from and extending in generally parallel relation to said fixed blade member;

a movable jaw with a second cutting/shearing edge extending therealong and that pivots relative to said fixed jaw; and

an indexable wear plate/piercing tip insert that is attached at a front, nose portion of said movable jaw, the wear plate/piercing tip insert comprising a metal body having a central region and two ends and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to said central region in the direction of a first side of said body so as to define an integral piercing tip that extends at least partially across the width of the front, nose portion of the movable jaw;

wherein a second side of said body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said second side of said body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the movable blade member; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip

insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface;

whereby a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for said metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert on said movable blade member.

6. The metal demolition shears of claim 5, wherein said second position is a position in which the wear plate/piercing tip insert is rotated by 180° about said pivot axis.

7. The metal demolition shears of claim 5, wherein the front, nose portion of the movable jaw member has a pocket or cavity extending laterally inwardly from a surface thereof into which the tip portions of the wear plate/piercing tip insert each fit, one of the tip portions being fitted in said pocket or cavity when positioned in a non-operative position.

8. The metal demolition shears of claim 7, wherein the pocket or cavity has contours that match surface contours of the tip portions.

9. The metal demolition shears of claim 5, wherein the front, nose portion of the movable jaw member has a notch formed in an underside thereof, the notch having surface contours that match surface contours of each of the tip portions, wherein one of the tip portions that is positioned in an operative position engages with said notch.

10. The metal demolition shears of claim 5, wherein said wear plate/piercing tip insert further comprises at least one boss or dowel that is located between said metal tip portions and that extends laterally from said central region in the direction of the first side of said body and wherein the front, nose portion of the movable jaw has a depression extending laterally inwardly from a surface thereof that matches surface contours of said at least one boss or dowel, said at least one boss or dowel fitting within said depression.

11. The metal demolition shears of claim 5, wherein the second cutting/shearing edge is provided by at least one blade insert member.

12. The metal demolition shears of claim 11, wherein the blade insert member extends all the way to a forwardmost portion of the front, nose portion of the movable jaw and wherein an inner-facing surface of one of the tip portions that is in an operative position engages with an inner-facing surface of the blade insert.

13. The metal demolition shears of claim 12, wherein forward-facing surfaces of the tip portion in the operative position and the blade insert are co-planar and bottom-facing surfaces of the tip portion in the operative position and the blade insert are co-planar such that a forward portion of the blade insert and a forward, lower portion of the tip portion in the operative position together define a piercing tip portion of the movable jaw.

14. A jaw member for use in a metal demolition shears, said jaw member comprising:

a jaw body with a cutting/shearing edge extending theralong; and

an indexable wear plate/piercing tip insert that is attached at a front, nose portion of said jaw body, the wear plate/piercing tip insert comprising a metal insert body having a central region and two ends and a metal tip

portion disposed at each of said two ends, each said tip portion protruding laterally with respect to said central region in the direction of a first side of said insert body so as to define an integral piercing tip that extends at least partially across the width of the front, nose portion of the jaw body;

wherein a second side of said insert body that is opposite to said first side has a generally planar surface to define a wear surface of said wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said second side of said insert body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending at least partially across the width of the front, nose portion of the jaw body; and

wherein the geometric configuration of said wear plate/piercing tip insert is essentially the same in a first position and a second position, said second position being a position in which said wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said wear plate/piercing tip insert, normal to said generally planar surface;

whereby a non-worn or less worn portion of said wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for the metal demolition shear by rotating said wear plate/piercing tip insert about said pivot axis from said first position to said second position and reseating said insert on said movable blade member.

15. The jaw member of claim 14, wherein said second position is a position in which the wear plate/piercing tip insert is rotated by 180° about said pivot axis.

16. The jaw member of claim 14, wherein the front, nose portion of the jaw body has a pocket or cavity extending laterally inwardly from a surface thereof into which the tip portions of the wear plate/piercing tip insert each fit, one of the tip portions being fitted in said pocket or cavity when positioned in a non-operative position.

17. The jaw member of claim 16, wherein the pocket or cavity has contours that match surface contours of the tip portions.

18. The jaw member of claim 14, wherein the front, nose portion of the jaw member has a notch formed in an underside thereof, the notch having surface contours that match surface contours of the tip portions, wherein one of the tip portions that is positioned in an operative position engages with said notch.

19. The jaw member of claim 14, wherein said wear plate/piercing tip insert further comprises a boss that is located between said metal tip portions and that extends laterally from said central region in the direction of the first side of said body and wherein the front, nose portion of said jaw member has a depression extending laterally inwardly from a surface thereof that matches surface contours of said boss, said boss fitting within said depression.

20. The jaw member of claim 14, wherein the cutting/shearing edge is provided by at least one blade insert member.

21. The jaw member of claim 20, wherein the blade insert member extends all the way to a forwardmost portion of the front, nose portion of the jaw member and wherein an

inner-facing surface of one of the tip portions that is in an operative position engages with an inner-facing surface of the blade insert.

22. The jaw member of claim 21, wherein forward-facing surfaces of the tip portion in the operative position and the blade insert are co-planar and bottom-facing surfaces of the tip portion in the operative position and the blade insert are co-planar such that a forward portion of the blade insert and a forward, lower portion of the tip portion in the operative position together define a piercing tip portion of the jaw member.

23. A jaw member for use in a metal demolition shears, said jaw member comprising:

a jaw body with a cutting/shearing edge extending the-
realong;

a recessed seating surface at a forward, nose portion of
said jaw body;

a pocket or cavity that extends laterally from said recessed
seating surface toward an opposite side of said jaw;

a cut-out or notch formed at a lower, underside portion of
said forward, nose portion of said jaw body; and

at least one bore or depression, other than said pocket or
cavity, extending laterally from said recessed seating
surface and configured to receive therein a support boss
extending laterally from the insert member or a support
dowel when the insert member is in said multiple
positions,

wherein said cut-out or notch has contours that are the
same as a portion of contours of said pocket or cavity
and wherein said recessed seating surface has a geo-
metric configuration which permits an insert member to
be seated thereagainst in multiple positions, with one
laterally protruding tip portion of the insert member
seating within said pocket or cavity and another, gen-
erally identically configured, laterally protruding tip
portion of the insert member engaging against surfaces
of said cut-out or notch in each of said multiple
positions.

24. (canceled)

25. The jaw member of claim 23, wherein said cut-out or
notch extends laterally across the entire width of said
forward, nose portion of the jaw body.

26. The wear plate/piercing tip insert of claim 1, wherein
each of the piercing tips extends completely across the width
of the front, nose portion of the movable jaw when the wear
plate/piercing tip insert is attached to the movable jaw.

27. The wear plate/piercing tip insert of claim 26, wherein
each of the tip portions comprises a main portion that
extends partially across the width of the front, nose portion
of the movable jaw when the wear plate/piercing tip insert
is attached to the movable jaw and an extension portion that
protrudes from the main portion and extends completely
across the width of the front, nose portion of the movable
jaw when the wear plate/piercing tip insert is attached to the
movable jaw.

28. The metal demolition shears of claim 5, wherein each
of the piercing tips extends completely across the width of
the front, nose portion of the movable jaw when the wear
plate/piercing tip insert is attached to the movable jaw.

29. The metal demolition shears of claim 28, wherein each
of the tip portions comprises a main portion that extends

partially across the width of the front, nose portion of the
movable jaw when the wear plate/piercing tip insert is
attached to the movable jaw and an extension portion that
protrudes from the main portion and extends completely
across the width of the front, nose portion of the movable
jaw when the wear plate/piercing tip insert is attached to the
movable jaw.

30. The jaw member of claim 14, wherein each of the
piercing tips extends completely across the width of the
front, nose portion of the movable jaw when the wear
plate/piercing tip insert is attached to the movable jaw.

31. The jaw member of claim 30, wherein each of the tip
portions comprises a main portion that extends partially
across the width of the front, nose portion of the movable
jaw when the wear plate/piercing tip insert is attached to the
movable jaw and an extension portion that protrudes from
the main portion and extends completely across the width of
the front, nose portion of the movable jaw when the wear
plate/piercing tip insert is attached to the movable jaw.

32. A matched pair of indexable wear plate/piercing tip
inserts configured to be attached at a front, nose portion of
a correspondingly configured movable jaw of a metal demo-
lition shears, each of the wear plate/piercing tip inserts
comprising:

a metal body having a central region and two ends, and
a metal tip portion disposed at each of said two ends, each
said tip portion protruding laterally with respect to said
central region in the direction of a first side of said body
so as to define a piercing tip portion that extends
partially across the width of the front, nose portion of
the movable jaw when the respective wear plate/pierc-
ing tip insert is attached to the movable jaw;

wherein a second side of said body that is opposite to said
first side has a generally planar surface to define a wear
surface of the respective wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said
second side of said body and a piercing edge disposed
at an angle relative to and intersecting with said shear-
ing edge, said piercing edge extending partially across
the width of the front, nosc portion of the movable jaw
when the respective wear plate/piercing tip insert is
attached to the movable jaw;

wherein the respective geometric configuration of each of
said wear plate/piercing tip inserts of said pair is
essentially the same in a first position and a second
position, said second position being a position in which
said respective wear plate/piercing tip insert is rotated
about a pivot axis passing centrally through said
respective wear plate/piercing tip insert, normal to said
generally planar surface; and

wherein the wear plate/piercing inserts of said pair are
mirror symmetric with respect to each other and are
configured to be attached to opposite sides of the front,
nose portion of the movable jaw with a center, keel
portion of the nose portion sandwiched therebetween;

whereby a non-worn or less worn portion of the wear
surface and non-worn or less worn shearing and pierc-
ing edges can be presented simultaneously for the metal
demolition shear by rotating a given wear plate/pierc-
ing tip insert about its pivot axis from its respective first

position to its respective second position and reseating the given wear plate/piercing tip insert on the movable jaw.

33. The matched pair of indexable wear plate/piercing tip inserts of claim 32, wherein the tip portions of the pair of indexable wear plate/piercing tip inserts protrude laterally far enough for two of the tip portions to form, in combination with each other, an entire piercing tip of the movable jaw when the pair of wear plate/piercing tip inserts are attached to the front, nose portion of the movable jaw.

34. The matched pair of indexable wear plate/piercing tip inserts of claim 32, wherein the pair of wear plate/piercing tip inserts are configured such that they each can be mounted to either side of the front, nose portion of the movable jaw.

35. A metal demolition shears, comprising:

a fixed jaw having a fixed blade member with a first cutting/shearing edge extending therealong and a guide member spaced from and extending in generally parallel relation to said fixed blade member;

a movable jaw with a second cutting/shearing edge extending therealong and that pivots relative to said fixed jaw; and

a matched pair of indexable wear plate/piercing tip inserts that are attached to opposite sides of a front, nose portion of said movable jaw with a center, keel portion thereof sandwiched therebetween, each of said indexable wear plate/piercing tip inserts comprising

a metal body having a central region and two ends, and a metal tip portion disposed at each of said two ends, each said tip portion protruding laterally with respect to said central region in the direction of a first side of said body so as to define a piercing tip portion that extends partially across the width of the front, nose portion of the movable jaw;

wherein a second side of said body that is opposite to said first side has a generally planar surface to define a wear surface of the respective wear plate/piercing tip insert;

wherein each said tip portion has a shearing edge on said second side of said body and a piercing edge disposed at an angle relative to and intersecting with said shearing edge, said piercing edge extending partially across the width of the front, nose portion of the movable jaw;

wherein the respective geometric configuration of each of said wear plate/piercing tip inserts of said pair is essentially the same in a first position and a second position, said second position being a position in which said respective wear plate/piercing tip insert is rotated about a pivot axis passing centrally through said respective wear plate/piercing tip insert, normal to said generally planar surface; and

wherein the wear plate/piercing inserts of said pair are mirror symmetric with respect to each other;

whereby a non-worn or less worn portion of the wear surface and non-worn or less worn shearing and piercing edges can be presented simultaneously for the metal demolition shear by rotating a given wear plate/piercing tip insert about its pivot axis from its respective first position to its respective second position and reseating the given wear plate/piercing tip insert on the movable jaw.

36. The metal demolition shears of claim 35, wherein the tip portions of the pair of indexable wear plate/piercing tip inserts protrude laterally far enough for two of the tip portions to form, in combination with each other, an entire piercing tip of the movable jaw.

37. The metal demolition shears of claim 35, wherein the pair of wear plate/piercing tip inserts are configured such that they each can be mounted to either side of the front, nose portion of the movable jaw.

* * * * *

XI. RELATED PROCEEDINGS APPENDIX (37 C.F.R. § 41.37(c)(1)(x))

There are no decisions rendered by a court or the Board in any proceeding identified pursuant to 37 C.F.R. § 41.37(c)(1)(ii).